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Monthly Current Affairs
November-December 2023

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Bletchley Declaration

Reservation



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Key Highlights:

- Reservation
- Role of Governor
- Deepfake Technology
- 2 + 2 Ministerial Dialogue
- Bletchley Declaration on Artificial Intelligence (AI)

Phone: 08448440231

Email: info@plutusias.com

Web: www.plutusias.com

Foreword

Dear Aspirants,

This magazine by the Plutus IAS team is designed in such a fashion that it holistically covers all the relevant and important topics for the Civil Services Exam to make aspirants exam-ready. Plutus IAS Current Affairs Magazine is a secondary source of information; the newspaper will remain the primary source for the preparation of Current Affairs.

Now, Current Affairs are no longer merely current; they are Contemporary Affairs. Questions asked in both Prelims as well as the Mains assess the conceptual clarity of an aspirant. This magazine is prepared with the aim of helping you understand the interlinkages of both Static and Dynamic news events and internalize the concepts required to crack this examination.

The Plutus IAS team wishes you all the best. Prepare for the UPSC Civil Services Examination with a calm, composed, or serene mind and some patience to crack this examination in one go.

**Team
Plutus IAS**

Sources:

The Hindu | The Indian Express | The Economic Times | Press Information Bureau | PRS Legislative Research | IDSA: Institute for Defense Studies and Analysis | Yojana and Kurukshetra | Lok Sabha and Rajya Sabha Debates.

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Rijul

**Are
You
Next?**

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RESERVATION



Why in the news?

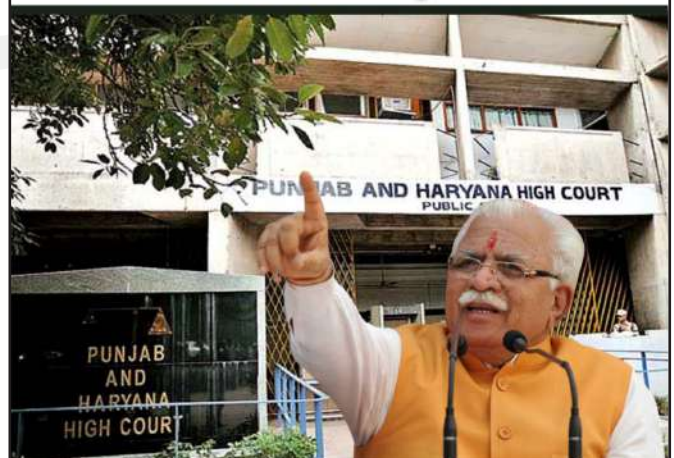
Recently, the Punjab and Haryana High Court quashed the Haryana government's law guaranteeing 75% reservation in private sector jobs. Meanwhile, the Bihar State Assembly passed a bill to increase the reservation quota for Scheduled Castes, Scheduled Tribes, Extremely Backward Castes (EBCs), and Backward Castes (BCs) in educational institutes and government jobs to 65% within the state.

About Haryana State Employment Act

During the 2019 Haryana assembly polls, Jannayak Janta Party leader and now Haryana Deputy Chief Minister, Dushyant Chautala, made a promise to provide 75% reservation in private sector jobs for state-domiciled candidates. After the polls, the JJP extended support to the BJP and formed a government as the saffron party fell short of attaining a simple majority.

To fulfill the poll promise, the Haryana State Employment of Local Candidates Act, 2020 was passed. This act came into force on January 15, 2022, and made it mandatory for employers to reserve 75% of jobs paying less than ₹30,000 a month for local residents. The government originally proposed that the reservation would apply to jobs paying up to ₹50,000, but later revised the upper limit to ₹30,000 following opposition from industrialists and business groups.

Punjab and Haryana High Court quashes Haryana's 75% local quota in private sector



The act applied to private sector companies, societies, trusts, limited liability partnership firms, partnership firms, and any person who employed 10 or more persons in Haryana. Haryana Governor Bandaru Dattatreya gave his assent to this bill in March 2021.

Several petitioners, primarily from industrialist groups, argued that the Haryana State Employment of Local Candidates Act, 2020, violated Articles 14 and 19 of the Constitution. On November 17, 2023,

the Punjab and Haryana High Court quashed and declared it unconstitutional. Now, the Haryana government is planning to appeal to the Supreme Court against the Punjab and Haryana High Court's order.

About the Bihar Reservation Amendment Bill

- The decision to enhance the reservation quotas in government jobs aligns with the findings of the Bihar Caste-Based Survey 2022, reflecting a proportional increase in their respective populations.

Key provisions of the Bill include:

- The quota for the Extremely Backward Class (EBC) is set to rise from 18% to 25%.
- The Backward Class (BC) quota will increase from 12% to 18%.
- The Scheduled Caste (SC) quota will increase from 16% to 20%.
- The Scheduled Tribe (ST) quota will be doubled, increasing from 1% to 2%.
- The existing 3% reservation for BC women has been eliminated.
- Furthermore, the 10% Economic Weaker Sec-

tion (EWS) quota for economically disadvantaged individuals in the general category remains unchanged.

- Consequently, the total reservation limit now reaches 75%, leaving 25% unreserved. These legislative measures extending the reservation increase apply to both government jobs and educational institutions.
- This decision also surpasses Bihar's reservation quota beyond the 50% cap imposed by the Supreme Court under the Indra Sawhney Case, also known as the Mandal verdict.

Mandal Commission of 1979

- The Mandal Commission, officially known as the Socially and Educationally Backward Classes Commission (SEBC), was established by the Government of India in 1979 to identify and address the needs of the country's socially and educationally backward classes. Raja Bindheshwari Prasad Mandal, an Indian politician who served as the seventh Chief Minister of Bihar in 1968, chaired the Second Backward Classes Commission, popularly known as the Mandal Commission. The commission's report mobilized a segment of the Indian population known as "Other Backward Classes" (OBCs) and initi-

Bihar Increases Reservation Quota



Category	Existing Reservation (%)	Revised Reservation (%)
Extremely Backward Class (EBC)	18	25
Backward Class (BC)	12	18
Scheduled Caste (SC)	16	20
Scheduled Tribe (ST)	1	2
Backward Class (BC) Women	3	0
Total	50	65

ated a fierce debate on policies related to underrepresented and underprivileged groups in Indian politics.

- The commission submitted its report in 1980, employing 11 indicators encompassing social, economic, and educational criteria to assess backwardness. Upon examination, the Mandal Commission determined that 52% of the Indian population fell into the socially and educationally backward classes category. As a significant recommendation, the commission proposed a 27% reservation for Other Backward Classes (OBCs) in central government jobs and educational institutions. In addition to reservations, the commission advocated for various developmental measures, including scholarships, financial assistance, and special coaching programs aimed at promoting the overall well-being of OBCs.
- The above-mentioned recommendations were not implemented because the Janata Party collapsed. The Janata Party came back into power in 1989. Subsequently, in 1990, V.P. Singh, the leader of the Janata Party, decided to implement the recommendations put forth by the Mandal Commission. His decision led to a nationwide protest, which soon took a violent form, and some universities in North India were set ablaze. Meanwhile, the government collapsed again, and the Congress Government came into power. Now, Prime Minister P. V. Narasimha Rao, with a few modifications, implemented the Mandal Commission's recommendation.

Indra Sawhney Case 1992

- In 1992, journalist Indra Sawhney noticed a large number of students and other people protesting at Delhi Jhandewalan Extension. This event motivated her to become one of the main petitioners who challenged the constitutional validity of the Mandal Commission's recommendations.

The petitioners made several critical arguments; some of them are as follows:

- The extension of reservation is a violation of the constitutional right to equal opportunities.

- Caste isn't a reasonable indicator of social and educational backwardness.
- The efficiency and competency of public institutions will be compromised.

The case first began with a two-judge bench and progressed to three, five, seven, and finally, it was decided by a nine-judge bench, which gave the verdict with a majority of 6 to 3 votes in 1992.

The Indra Sawhney case established the following principles:

- Reservation for backward classes is a constitutionally valid measure under Article 16(4) of the Constitution of India.
- The total reservation for all categories of backward classes should not exceed 50%.
- Creamy layer exclusions should be applied to prevent reservation benefits from being cornered by affluent members of the backward classes.
- No reservation should be provided in promotion; it can be applied only in initial appointment.

Background of Reservations in India: A Timeline

- Reservations in India have their roots in the country's historical and socio-economic context, particularly addressing issues of social inequality and discrimination. The British colonial government introduced some reservation elements in the early 20th century, but it was only after independence in 1947 that reservations were enshrined in the Indian Constitution. The Constitution provides reservations for Scheduled Castes (SCs) and Scheduled Tribes (STs) in government jobs and educational institutions.
- Initially, there was no provision for the reservation of Other Backward Classes (OBCs). To address this issue, India's first Backward Classes Commission, under the chairmanship of Kaka Kalelkar, was established on January 29, 1953. This commission submitted its report to the Central Government on March 30, 1955, listing 2399 castes as socially and educationally back-

ward classes. However, the central government rejected the commission's report in 1961, failing to fulfill the objective of the constitution for the creation of a casteless society.

Constitutional Provisions for Reservations:

- **Article 15(4):** This article enables the government to make special provisions for advancing any **socially and educationally backward class of citizens or for the Scheduled Castes and the Scheduled Tribes**.
- **Article 16(4):** This article enables the government to make reservations for **appointments or posts in favour of any backward class of citizens**, which, in the government's opinion, is not adequately represented in the services under the state.
- **Article 330:** This article reserves seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha.
- **Article 332:** This article reserves seats for Scheduled Castes and Scheduled Tribes in the State Legislative Assemblies.

103rd Constitution Amendment Act, 2019

- To provide a 10% reservation for Economically Weaker Sections (EWS) in Central Government jobs and educational institutions, the Parliament of India passed the Constitution (124th Amendment) Bill in January 2019. The Act added Articles 15(6) and 16(6) to permit the government to make special provisions for advancing 'economically weaker sections.' However, the Amendment does not make such reservations mandatory in state government-run educational institutions or state government jobs. The Act faced a legal challenge in the Supreme Court of India, which upheld its constitutionality in November 2022. The Court ruled that the 10% reservation for EWS does not violate the basic structure of the Constitution, nor the guidelines given in the Indra Sawhney Case, and that it is a reasonable measure to promote social and economic justice.

FINANCE COMMISSION

Why in the news?

The government has begun the constitution process for the Sixteenth Finance Commission. This commission, crucial for determining the tax-sharing formula between the Centre and states, is expected to be formed by the end of this year.

Finance Commission

- The Finance Commission, established as a constitutional body, provides recommendations on distributing tax revenues among the Union and the States and the States themselves.
- It is constituted by the President under Article 280 of the Constitution, occurring at the end of every fifth year or earlier if deemed necessary.

Composition

- The Commission comprises **a chairman and four members appointed by the President**.
- They serve for a period specified by the president in his order and are eligible for reappointment.
- The Constitution authorises Parliament to determine commission members' qualifications and selection process.
- The Parliament, under the ***Finance Commission (Miscellaneous Provisions) Act, 1951***, has specified the qualifications for the chairman and members:
 - **Chairman:** Must have experience in public affairs.
 - **Members:** Can be selected from among individuals with the following qualifications:
 - A **high court judge** or someone qualified to be appointed as one.
 - A person with **specialised knowledge of government finance** and accounts.

- Someone with extensive **experience in financial matters and administration.**
- An individual with **exceptional knowledge of economics.**

Functions:

The Commission is tasked with making recommendations to the President on:

- The distribution of net tax proceeds between the Centre and states and the allocation among states.
- Principles governing grants-in-aid to states from the Consolidated Fund of India.
- Based on state finance commission recommendations, measures to augment a state's consolidated fund to support resources for panchayats and municipalities.
- Any other matter referred by the President in the interests of sound finance.

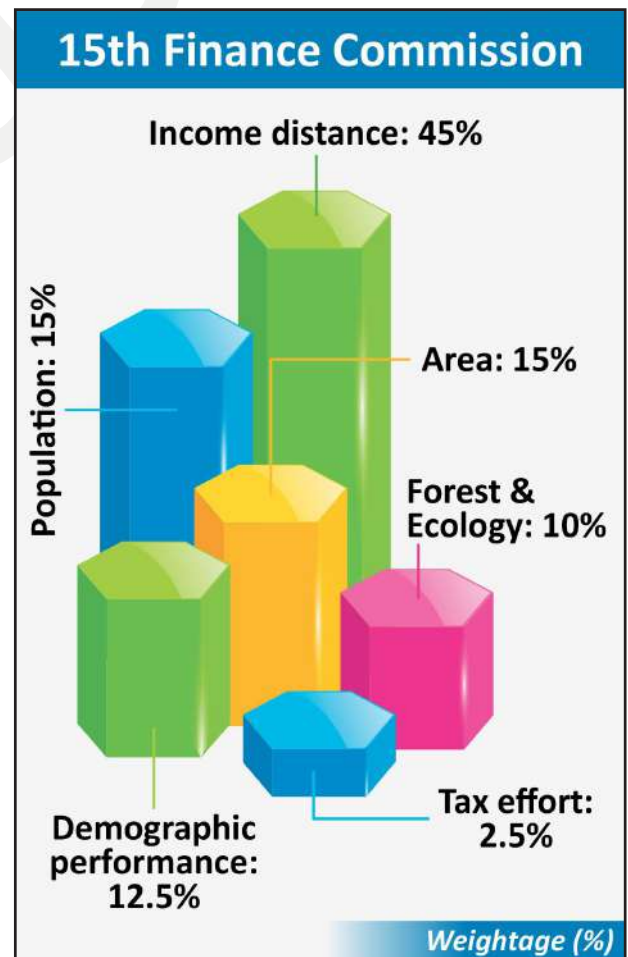
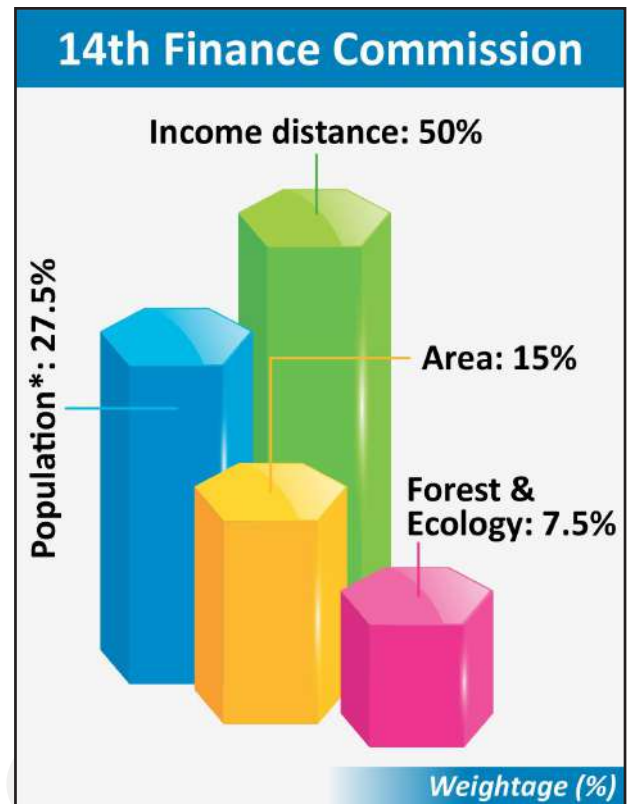
Nature of FC's Recommendations:

- The Constitution does not mandate that the Commission's recommendations be binding or confer a legal right on beneficiary states to receive the recommended funds.
- The Union government can decide whether to implement the Commission's suggestions regarding financial allocations to states.

Achievements:

- The Finance Commission of India has significantly reduced vertical and horizontal fiscal imbalances, accomplishing its core objectives.
- It has played a pivotal role in promoting cooperative federalism by serving as a platform for dialogue and negotiation between the central and state governments.

The Finance Commission is a valuable institution that plays a vital role in Indian fiscal federalism. However, it can be improved by making its formula for distributing tax revenues more transparent and giving more weight to the needs of special category states and new fiscal challenges.



ROLE OF GOVERNOR



Why in the news?

Recently, there has been friction between the Governors and the State Governments of several states. This is due to withholding assent to bills passed by state assemblies for several months and years without providing any reason for doing so.

Current Criticism of Governor's Role

- In 2020, the Tamilnadu Government passed 12 bills, most of which were related to the appointment of a vice-chancellor of the University by the State Government instate of the governor. The Governor kept them on hold or reserved them for pending for more than 3 years. When the Tamilnadu Government reached the Supreme Court regarding the long pending of these bills, the Court asked the Governor to take immediate action. The Governor returned 10 bills and is still holding 2 bills. Just after that, the Tamilnadu Government called a special session to adopt them again. Chief Minister Stalin criticized this act of the governor as unconstitutional, anti-people, and against the sovereignty of the state assembly. It is not an isolated incident.
- Earlier, in February 2023, the Governor of Kerala approved and enacted into law five bills but chose to withhold assent for six bills out of the total 11 bills passed and sent by the assembly for his approval. These bills encompassed legislative proposals such as the Kerala Lokayukta (Amendment) Bill and the Kerala University (Amendment) Bill. The governor was accused of delaying the passage of some bills for up to 26 months.
- Now, the Supreme Court has directed Kerala Governor Arif Mohammed Khan to review its recent judgment on Governors' role in approving bills, citing the Punjab case. In the Punjab ruling, the court emphasized that Governors can't indefinitely withhold assent to bills. Ker-

ala argued that the Governor's delays violated democratic principles and citizens' rights, especially in post-COVID public health bills. The court has urged the Governor's office to consider the Punjab judgment for future actions.

- The Supreme Court expressed displeasure over similar delays by the Governor of Telangana. The court has expressed 'serious concern' over inaction by the Governor on Bills presented for his assent.



Constitutional Provisions for the Office of Governor:

- Article 153 mandates the appointment of a Governor for each state, allowing one individual to serve as Governor for multiple states. The President appoints the Governor, who serves as a nominee of the Central Government.
- The Governor functions as the constitutional head of the state and is obligated to follow the advice of the Council of Ministers (CoM). Article 163 of the Indian Constitution establishes a Council of Ministers, headed by the Chief Minister, to assist and advise the Governor in performing their functions.
- While the Governor is generally bound by the advice of the Council of Ministers, certain conditions allow for the exercise of discretion.

Legislative Constitutional Provisions:

- Article 200 of the Constitution stipulates that when a Bill, passed by a State Legislature, is presented to the Governor for their assent, they have four alternatives —
 - (i) may give assent to the Bill;
 - (ii) may return the Bill (if it is not a Money Bill) for

reconsideration by the State Legislature; if the Bill is passed again by the House or Houses, with or without amendment, and presented to the Governor for assent, the Governor shall not withhold his assent.

(iii) may withhold assent to the Bill, rejecting it, in which case the Bill fails to become law;

(iv) may reserve the Bill for the consideration of the President.

The provision to Article 200, which makes the Governor's assent mandatory for Bills passed a second time, does not apply to Bills for which assent has been 'withheld,' a term that essentially means 'rejected.'

Scope of Discretionary Powers of the Governor:

According to the opinion tendered by the Supreme Court of India, the Governor is required to act as per the advice of the Council of Ministers. He does not exercise his discretionary powers while withholding assent or returning a Bill to the State Legislature.

Situation of 'Withholding Assent':

(i) In the case of a Private Members' Bill (any Member of the State Legislature other than a Minister): If such a bill has passed the State Legislature but the council of ministers does not want it to be enacted into law, they would advise the Governor to 'withhold assent.'

This situation rarely occurs because the Council of Ministers enjoys a majority in the Legislative Assembly. If the CoM does not want to pass such a bill, it can easily defeat the passage of a private member's bill.

(ii) In the case of the fall of the government: If the incumbent government, whose Bill has been passed by the legislature, falls or resigns before it is assented to by the Governor, the new council may advise the Governor to 'withhold assent.'

Situation for Returning Bills:

(i) On the recommendation of the CoM: The Governor can return any Bill to the State Legislature for reconsideration based on the advice of the council of ministers, which wants to amend or improve some of the controversial provisions of the bill. This

may occur if the opposition is putting more pressure on the government or mass protests are observed due to the effects of the bill's provisions on a particular section of society.

(ii) For encroachment over constitutional rights:

The Governor may also return a bill for reconsideration by the state's assembly if some provisions of the bill are affecting the basic rights of the people. This may also happen when questions arise regarding the legal validity of such acts.

However, Governors in the past have exercised their discretion in returning Bills, like the Tamil Nadu Governor with respect to the Bill prohibiting online gambling. But the Governor shall assent to such a Bill if it is passed again by the State Legislature.

Situation for Reserving Bills:

- The Governor must reserve certain Bills, like those that reduce the powers of the High Court, for the consideration of the President.
- He may also reserve Bills on concurrent lists that are repugnant to a Union law based on ministerial advice.
- It is only under rare circumstances that the Governor may exercise his discretion, where they feel that the provisions of the Bill will contravene the Constitution and therefore should be reserved for the consideration of the President.
- In the Shamsher Singh case, the Court established that the Governor's power to reserve bills for the President's consideration constitutes an instance of discretionary authority.

Time Limit for Governor's Action on Bills:

- The Constitution does not lay down any time limit within which the Governor is required to make a decision. The absence of a time limit in Articles 200 and 201 indicates the framers' intention to safeguard bills awaiting the Governor's assent from lapsing. The Supreme Court's decision in the Purushothaman Nambudiri case clarified that a bill pending the Governor's assent does not lapse upon the dissolution of the House.

GOVERNOR AND PRESIDENT

Similarities		Differences		
Point of Similarity	Characteristics	Point of Difference	President	Governor
Head	<ul style="list-style-type: none"> Both are nominal executive heads (constitutional/ titular heads) at their level 	Election	Indirectly elected	Appointed by President
Promulgating Ordinances	<ul style="list-style-type: none"> Both are empowered (under Article 123/213 - President/Governor) 	Pleasure Doctrine	No concept of Pleasure doctrine	Serves at the Pleasure of the President
Civil and Criminal Proceedings	<ul style="list-style-type: none"> Both are immune from any criminal proceedings during tenure; cannot be arrested or imprisoned Civil proceedings can be instituted after giving a 2-months' notice 	Declaring Scheduled Area	Can declare any area as scheduled area	Role is limited to consultation
Re-appointment/Re-election	<ul style="list-style-type: none"> Both are eligible for reappointment/re-election to the same office 	Amending Constitution	His assent to the bill is required	No role in a Constitutional Amendment Bill
Appointing Officers	<ul style="list-style-type: none"> What President appoints at National level, Governor appoints at state level (members of Public Service Commission, Judges of courts, Election Commissioners etc.) 	Pardoning Power	Can pardon a death sentence/punishment by a court-martial	Can't pardon a death sentence, no role in affairs of military
Role in Legislature	<ul style="list-style-type: none"> Power to summon or prorogue the State/Union Legislature and dissolve the State LA/Lok Sabha 	Constitutional Discretionary Power	No Constitutional Discretion	Constitutional Discretion in reserving a bill , imposition of President's rule & administrating an adjoining UT
Financial Powers	<ul style="list-style-type: none"> Constituting Finance Commission at State/Union level 	Condition of Impeachment	Violation of the Constitution	No grounds laid
Situational Discretionary Power	<ul style="list-style-type: none"> Appointing PM/CM (in case of PM/CM's death or when no party has clear majority) Dismissal of Council of Ministers Dissolution of Lok Sabha/ State LA 			

What were the recommendations of different commissions?

The Sarkaria Commission (1987) recommended that the Governor must discharge his functions under Article 200 as per the advice of ministers. It is only the reservation of Bills for the consideration of the President, and that too under rare cases of unconstitutionality, that can be implied as a discretionary power of the Governor. It further recommended that the President should dispose of such Bills within a maximum period of six months. In the event of the President 'withholding assent,' the reasons should be communicated to the State Government wherever possible.

The Punchhi Commission (2010) had recommended that the Governor should take a decision with respect to a Bill presented for their assent within a period of six months. However, these recommendations have not been implemented to date.

COMPTROLLER AND AUDITOR GENERAL (CAG)



Why in the news?

As Indian democracy has evolved, the significance of the Comptroller and Auditor General (CAG) has heightened, playing a crucial role in advancing good governance and protecting the interests of the people.

CONSTITUTIONAL PROVISIONS:

- Article 148: Specifies that the Comptroller and Auditor General of India (CAG) shall be appointed by the President through a warrant under his hand and seal.
- Article 149: Grants powers to the CAG for auditing accounts related to government accounts, recognized as part of the Basic Structure of the Constitution in the case of Association of Unified Tele Services Providers v. Union of India.
- Article 150: Defines the form of accounts for the Union and States.
- Article 151: Mandates the submission of audit

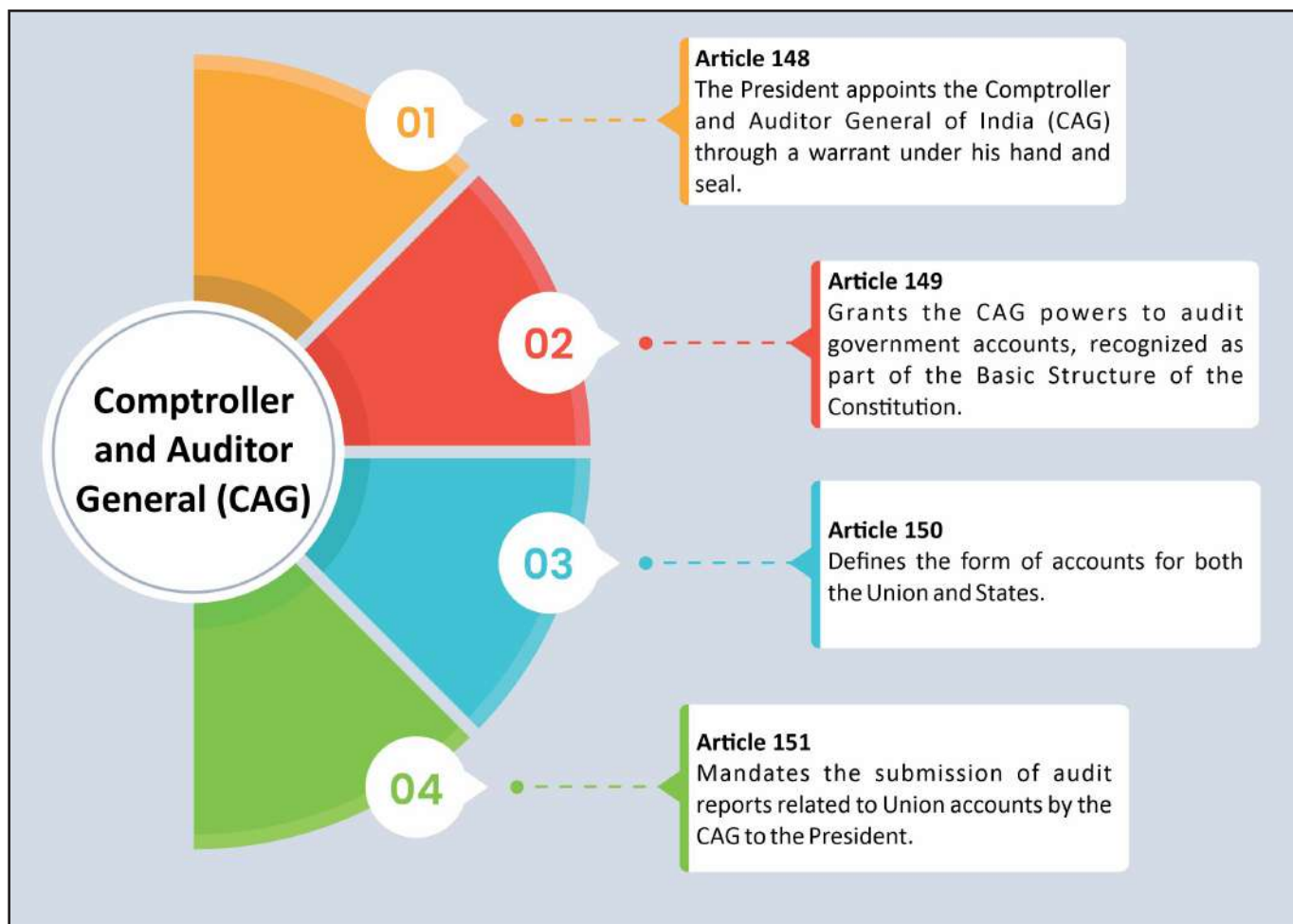
reports related to Union accounts by the CAG to the President.

Emerging Importance of the Office of Cag:

- **Ensuring Transparency and Accountability:** The CAG plays a pivotal role in a democratic framework by ensuring transparency, accountability, and professional integrity in the government's functioning.
- **Separation of Powers:** Helps maintain the separation of powers between the legislature and the executive by ensuring alignment between the government's financial activities and its legislative intentions.
- **Promoting Good Governance:** Through audit findings and recommendations, the CAG promotes good governance practices, contributing to streamlined government operations.
- **Efficiency Enhancement:** By enforcing financial discipline, the CAG reduces inefficiency within the executive, fostering better resource utilization.
- **Contribution to Sustainable Development Goals:** Collaborating with international agencies like the UN, the CAG audits and assesses the performance of Sustainable Development Goals.
- **Capacity Building and Support:** Provides hand-holding and capacity-building for state-level auditors and local fund auditors, offering technical guidance and support in audit planning and methodologies.

Issues Arising from the Functioning of Cag:

- **Selection and Appointment Issues:**
 - Executive Monopoly: The appointment process lacks specific criteria, leading to an executive monopoly, where the Cabinet Secretary shortlists candidates submitted to the Prime Minister via the Finance Minister.
 - Conflict of Interest: The executive's control over appointments raises concerns about a conflict of interest, particularly when the CAG audits the government headed by the Prime Minister.



- Inter-Services Conflict: The dominance of IAS officers in appointments raises questions of whether IAAS officers should have a more substantial presence.

- **Performance Audit Limitations:**

- Competence Concerns: Doubts exist about the CAG's ability to conduct performance audits effectively.
- Judicial Limitation: The Supreme Court has ruled in *Arun Kumar Agrawal v Union of India* that the CAG cannot question the merits of the State government's policy objectives.

- **Procedural Challenges:**

- Post-facto Analysis: Audit reports provide post-facto analysis, offering prospective value for improving future systems and procedures.
- Lack of Focused Findings: Findings, often

presented as scattered observations, create media attention without addressing micro-level issues in departmental functioning.

- Unaddressed Systemic Issues: While known problems are identified, systemic issues in public organizations remain unaddressed.

- **Audit Perceived as Policing Mechanism:**

- Government Indifference: Poor response from the government to external audits reduces the effectiveness of the CAG's role.
- Delayed Report Presentation: Delays in tabling finance reports before Parliament deprive the legislature of crucial information before the budget session.
- Reduced Output: The substantial reduction in the number of audit reports prepared by the CAG raises concerns about its output.

Way Forward:

- **Reforming the Appointment Process:**
 - International Best Practices: Adopting best practices from countries like the UK, USA, and Canada for the appointment of the CAG.
 - Search Committee: Establishing a search committee comprising the Prime Minister, Home Minister, and Leader of Opposition for recommendations.
- **Enlarging the Scope of Audit:**
 - Inclusion of Panchayati Raj Institutions: Bringing Panchayati Raj Institutions and State-funded societies under the ambit of CAG audit.
- **Empowering the CAG:**
 - Liability Powers: Providing CAG with the power to demand liability for losses from the government and other parties, akin to the setup in New Zealand.
 - Amending CAG Act 1971: Amending the CAG Act 1971 to include the pre-audit of defense expenditure exceeding ₹3000 Crores and granting State Auditors General the status of High Court Judges.
- **Improving Accessibility and Responsiveness:**
 - RTI-like Time Limit: Establishing a time limit, similar to RTI, for auditors to access records promptly.
 - Accountability for Delay: Requiring heads of departments to explain delays in providing access to records.

These recommendations aim to enhance the effectiveness, transparency, and independence of the CAG, ensuring its continued significance in upholding financial accountability and good governance in India.

BROADCASTING SERVICES (REGULATION) BILL, 2023

Why in the news?

The Ministry of Information & Broadcasting recently unveiled the draft version of the Broadcasting Services (Regulation) Bill, 2023.

Broadcasting Services (Regulation) Bill, 2023.

- The draft Bill introduces a unified framework for overseeing broadcasting services in the country, **aiming to supersede the Cable Television Networks (Regulation) Act, 1995**, and prevailing Policy Guidelines governing the sector.
- It **simplifies regulatory procedures, expanding its scope to include Over-the-Top (OTT) content and digital news.**
- The bill incorporates modern definitions and provisions for emerging technologies.
- It also proposes the establishment of **Content Evaluation Committees** and a **Broadcast Advisory Council for self-regulation.**
- Additionally, it advocates distinct program and advertisement codes for various Broadcasting Network Operators, outlines accessibility measures for persons with disabilities, and introduces statutory penalties.

Key Highlights:

- **Consolidation and Modernization:**
 - Addresses the long-standing need to consolidate and update regulatory provisions for various broadcasting services under a single legislative framework.
 - Streamlines the regulatory process, enhancing efficiency and modernising the framework.
 - Extends regulatory purview to include over-the-top (OTT) content, digital news, and current affairs, currently regulated through

the IT Act, 2000.

- **Contemporary Definitions and Future-Ready Provisions:**

- Introduces comprehensive definitions for contemporary broadcasting terms to keep pace with evolving technologies and services.
- Incorporates provisions for emerging broadcasting technologies, ensuring the legislation remains future-ready.

- **Strengthens the Self-Regulation Regime:**

- Enhances self-regulation by introducing 'Content Evaluation Committees.'
- Evolves the existing Inter-Departmental Committee into a more participative and broader 'Broadcast Advisory Council.'

- **Differentiated Programme Code and Advertisement Code:**

- Allows for a differentiated approach to Programme and Advertisement Codes across various services.
- Requires self-classification by broadcasters and implements robust access control measures for restricted content.

- **Accessibility for Persons with Disabilities:**

- Addresses the specific needs of persons with disabilities by providing enabling provisions for issuing comprehensive accessibility guidelines.

- **Statutory Penalties and Fines:**

- Introduces statutory penalties such as advisory actions, warnings, censures, or monetary penalties for operators and broadcasters.
- Retains provision for imprisonment and fines but only for grave offences, ensuring a balanced regulatory approach.

- **Equitable Penalties:**

- Links monetary penalties and fines to the

financial capacity of the entity, considering investment and turnover to ensure fairness and equity.

- **Infrastructure Sharing, Platform Services, and Right of Way:**

- Includes provisions for infrastructure sharing among broadcasting network operators and the carriage of platform services.
- Streamlines the Right of Way section to address relocation and alterations more efficiently.
- Establishes a structured dispute resolution mechanism.

Key Features

The bill covers **broadcasters, cable and satellite broadcasting networks, radio, and internet broadcasting**

- It defines OTT
- Proposes compliance with Advertising and Programming Code
- **Broadcast Advisory Council** for grievance redressal



ELECTION SYMBOLS



Why in the news?

The Supreme Court has declined to consider a petition brought forth by the ruling Bharat Rashttra Samiti (BRS) party in Telangana. This petition challenged the allocation of election symbols to two different parties.

About Election Symbol Allotment:

- **Election Commission of India's (ECI) role:** The Election Commission of India (ECI) holds the responsibility for the allotment of election symbols. This allocation is carried out as per The Election Symbols (Reservation and Allotment) Order, 1968, a regulation aimed at specifying, reserving, choosing, and assigning symbols for elections in Parliamentary and Assembly Constituencies, particularly for the recognition of political parties.
- **Reserved and Free Symbols:** Symbols can fall into two categories, reserved or free. Reserved symbols are exclusive to recognized political parties, whereas free symbols are not bound by exclusivity.
- **Recognition of Political Parties:** A political party can earn recognition as either a national or state party if it fulfills specific criteria established by the ECI.
- **Publication of Lists:** The ECI publishes lists containing the names of parties and their corresponding symbols through notifications in the Gazette of India.
- **Current Party Classification:** As per the most recent notifications, there are presently six national parties, 26 state parties, and 2,597 registered unrecognised parties in India.
- **Unrecognised Registered Parties and Election Symbols:** Candidates from unrecognised registered parties are allowed to select from free, non-exclusive symbols. These parties typically

ly consist of newly registered parties or those that have not garnered sufficient votes to meet the stipulated criteria for recognition. Subsequently, the symbols chosen by these parties are reclassified as free for use in subsequent elections.

- **Recognised Parties and Election Symbols:** Recognized national and state parties are granted exclusive symbols for their use.

Political Parties' Symbol Preferences According to the 1968 Order

The 1968 order stipulates the procedures for political parties to express their symbol preferences during parliamentary and assembly elections, particularly for the recognition of political parties by the Election Commission (EC). Here's an overview of the process:

- **Specification of Symbols:** The EC is mandated to provide guidelines for specifying, reserving, choosing, and allotting symbols for political parties.
- **Unregistered Parties:** Unregistered political parties are required to submit a list of ten symbols in order of preference. These symbols are chosen from the list of free symbols that the EC has notified.
- **Proposal of New Symbols:** If a political party wishes, they can propose three new symbols of their choice. These proposals should include the names of the symbols, along with clear design and drawings, also listed in order of preference.
- **Commission's Consideration:** The Election Commission has the authority to evaluate these proposed symbols and may consider them for allotment as a common symbol if there are no objections to such allocation.
- **Symbol Criteria:** Symbols proposed by political parties must adhere to certain criteria. They should not bear any resemblance to existing reserved symbols or free symbols. They should also avoid any religious or communal connotations and refrain from depicting birds or animals.

Election Symbol in Case of a Split:

- When a recognized political party splits, the Election Commission of India (ECI) follows a set of criteria to resolve symbol disputes. These criteria are based on the principles established in the Sadiq Ali case and generally involve three tests:
- **Test of Aims and Objects of the Party Constitution:** The ECI examines whether the aims and objects of the party, as stated in its constitution, align with one of the rival factions. This test helps determine which faction is more aligned with the original purpose and ideology of the party.
- **Test of Party Constitution:** The ECI reviews the party's constitution to see which faction adheres more closely to the rules and principles outlined in the constitution. This test can help determine which faction has a stronger claim to the party's legitimate identity.
- **Test of Majority:** The ECI assesses which faction has the support of a clear majority within the party. This includes examining the support from party delegates, office bearers, MPs (Members of Parliament), and MLAs (Members of Legislative Assembly). In most cases, the faction with a clear majority of support is favored.
- In situations where disputes persist over the list of office bearers, making it difficult to ascertain the strength of rival groups within the party organization, the ECI may rely solely on the majority support among elected MPs and MLAs. If both the legislative and organizational aspects fail to provide a clear decision, the ECI may freeze the existing symbol and ask both factions to choose a new symbol.

Group that does not get the Parent Party's Symbol:

- **Before 1997:**
 - The Election Commission (EC) recognized the party not receiving the symbol based on specific criteria. If the splinter group had the support of a sufficient number of MPs and MLAs, it could be recognized as a National or State Party.

1997 Rule Change:

- The EC introduced a new rule in 1997. This rule required the splinter group that did not receive the party symbol to register itself as a separate political entity.
- Recognition as a National or State Party was no longer automatic based on the support of MPs and MLAs.
- These newly formed parties could claim such status based on their electoral performance in subsequent state or central elections after their registration.
- Recognition was now dependent on the party's own electoral strength and not inherited from their parent parties.

PREVENTIVE DETENTION



Why in the news?

Recently, the Supreme Court has expressed concerns about the Telangana government's use of Preventive Detention law in at least three instances.

What is Preventive Detention?

Preventive detention is a legal mechanism that empowers authorities to detain individuals who have not committed a crime but are deemed potential threats to law and order.

- It involves **detaining individuals without a trial, primarily preventing them from engaging in criminal activities.**
- The Supreme Court of India has articulated that the purpose of preventive detention is not punitive; instead, it is **aimed at averting actions that may jeopardise the state's security.**
- **Preventive detention differs from pre-trial detention.** Pre-trial detention involves individuals awaiting trial for a crime they are accused of committing. In contrast, preventive detention allows the apprehension of individuals as

a precaution, even if they haven't committed a crime.

- The authority to enact preventive detention laws in India is derived directly from Part III: Fundamental Rights of the Constitution.

Rowlatt Act of 1919

- The Rowlatt Act, officially known as the Anarchical and Revolutionary Crimes Act of 1919, is a significant example of a preventive detention law.
- It permitted the British government to detain suspects for up to two years without trial during **World War I**.
- It **aimed to suppress uprisings and anti-British activities in India**, enabling indefinite detention based solely on suspicion.
- The Rowlatt Act was met with widespread protests and demonstrations across India. **Mahatma Gandhi launched a nationwide satyagraha** (non-violent protest) movement against the law.
- The protests turned violent in some places, and the British government responded with heavy-handed repression.
- The **Jallianwala Bagh massacre**, in which British troops killed hundreds of unarmed protesters, directly resulted from the Rowlatt Act.

Constitutional Provisions: What are the Powers of The State?

- **Article 22(1)** of the Constitution guarantees protection against arrest and detention without due process of law.
- However, **Article 22(4)** provides for an exception to this rule, allowing for preventive detention laws to be made for reasons connected with:
 - Defence
 - Foreign affairs

- Security of India
- Maintenance of public order
- Maintenance of supplies and services essential to the community

- Parliament has exclusive power to enact preventive detention laws for reasons connected with defence, foreign affairs, or security of India.
- Both Parliament and state legislatures have the power to enact such laws for reasons related to maintaining public order or maintaining supplies and services essential to the community.

Article 22(5) of the Constitution provides certain safeguards against the misuse of preventive detention laws. **These safeguards include:**

- No person can be detained for more than **three months** without an advisory board reporting that there is sufficient cause for such detention.
- The **grounds of detention must be communicated to the detenu** as soon as possible, except when it is not in the public interest to do so.
- The detenu has the **right to make a representation to the advisory board against the detention**.

Legal Framework of Preventive Detention Across India

- **Laws enacted by the Parliament**
 - National Security Act
 - Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA)
 - Unlawful Activities (Prevention) Act, 2008
- **State-Specific Laws:**
 - Bihar Control of Crimes Act, 1981
 - Tamil Nadu Prevention of Dangerous Activities Act, 1982
 - Telangana Prevention of Dangerous Activi-

ties Act, 1986 (PD Act).

- Gujarat Prevention of Antisocial Activities Act, 1985
- Maharashtra Prevention of Organized Crime Act, 1999 (MCOCA)

Assessment of Preventive Detention by Courts:

- **Judicial review in such detention cases is minimal** because the Constitution prioritises the state's "**subjective satisfaction**" when issuing detention orders.
- The primary standard for assessing such orders is the state's subjective opinion rather than the constitutional rights of individuals.
- The **Court cannot replace the state's subjective judgment**, which makes it challenging to confirm the accuracy of the facts in the detention grounds.
- Judicial review primarily checks if the Advisory Board considered all the facts, applied their judgment, and if the state acted in bad faith when ordering detention.
- **Courts often cancel detention orders for technical reasons**, like delays in Advisory Board decisions, timely provision of reasons, and giving reasons in a language the detainee understands.

PARLIAMENTARY COMMITTEES



Why in the news?

The Lok Sabha Ethics Committee is currently investigating a complaint regarding the alleged involvement of a Member of Parliament in the 'Cash-for-Query' case.

Parliamentary Committees

- A Parliamentary Committee refers to a group of Members of Parliament (MPs) appointed, elected, or nominated by the Speaker.
- These committees operate under the Speaker's

guidance and trace their origins to the British Parliamentary System.

- Their authority is rooted in Article 105, which addresses MPs' privileges, and Article 118, granting Parliament the power to establish rules governing its procedures and business conduct.
- The Committees present their findings to either the House or the Speaker.
- It's essential to note that Parliament is not obligated to follow the committee's recommendations.

Parliamentary democracy would be incomplete without Parliamentary committees, and scrutiny of public accounts by the people's representatives plays an important role in ensuring accountability, which is central to governance.



— Former President
Ram Nath Kovind

Types of Parliamentary Committees

- Parliamentary Committees encompass Financial Committees, Departmentally Related Standing Committees, Other Parliamentary Standing Committees, and Ad hoc Committees.
- **Financial Committees:** They constitute the Estimates Committee, Public Accounts Committee, and the Committee on Public Undertakings.
- **Departmentally Related Standing Committees:** In 1993, seventeen Departmentally Related Standing Committees were instituted to scrutinise budget proposals and significant government policies, with their number later expanding.
- **Ad hoc Committees** serve specific purposes and dissolve upon completing their assigned tasks and presenting a report.

- Parliament also has the option to form a **Joint Parliamentary Committee (JPC)** with members from both Houses for in-depth scrutiny of a subject or bill.
- Additionally, each House has other **Standing Committees**, such as the Business Advisory Committee and the Privileges Committee.

Significance of Parliamentary Committees:

- **Improves Parliament's Effectiveness:** These committees scrutinise legislation and hold the executive accountable, enhancing Parliament's effectiveness.
- **Facilitates Inter-Ministerial Coordination:** Working closely with multiple Ministries, these committees foster inter-ministerial coordination.
- **Performs Vital Functions:** They examine Bills, grant demands, annual reports, and long-term plans of Ministries/departments.
- **Provides Technical Expertise:** They offer a platform for Members to engage with domain experts and government officials, enabling Parliament to deliberate on complex matters requiring technical expertise.
- **Builds Consensus Across Political Parties:** Closed-door committee meetings allow members to question and discuss issues, leading to consensus freely.
- **Shares Legislative Mandate:** These committees share the legislative mandate and are responsible for control, vigilance, and supervision, supporting the legislature in fulfilling its duties.
- **Provides Thorough Investigation and Analysis:** They conduct thorough investigations and analysis, essential for Parliament's effective functioning.
- **Handles Legislative Process:** Due to time constraints and the complexity of legislative activities, the Committees manage a significant portion of the legislative process.

Issues with Parliamentary Committees:

- **Recommendatory nature:** Parliamentary com-

mittees lack enforcement power, relying on the government's discretion to act on their recommendations, potentially undermining their effectiveness.

- **Limited resources:** Insufficient staff and expertise hinder committees from conducting in-depth studies and preparing comprehensive reports.
- **Lack of independence:** Influence from the government or other powerful entities can compromise committees' impartiality and independence.
- **Poor referral rate:** Not all bills undergo committee scrutiny, resulting in unequal levels of legislative examination.
- **Short time period:** Committees often face time constraints, hampering their ability to review bills and government proposals thoroughly.

Despite these challenges, parliamentary committees play a vital role in democracy. By strengthening the committees and addressing the issues they face, governments can make them more effective in holding the executive accountable and improving the quality of legislation.

PIRATED CONTENT ON
DIGITAL PLATFORMS



Why in the news?

The government has recently appointed nodal officers responsible for issuing orders to remove pirated content from digital platforms and has introduced robust measures to combat film piracy.

Background:

- The recent decision to combat film piracy comes after the passing of the Cinematograph Amendment Bill 2023 in Parliament.
- Currently, there exists no direct institutional framework for addressing pirated film content, except for legal action under the Copyright Act and the Indian Penal Code (IPC).

Key Information:

- The government has appointed 12 nodal officers within the Ministry of Information and Broadcasting and the Central Bureau of Film Certification (CBFC) to handle complaints related to film piracy. These officers are mandated to take action within 48 hours upon receiving a complaint.
- Those involved in piracy may now face fines ranging from INR 3 lakh to five percent of the gross audited value of production.
- Copyright holders or their authorized representatives can apply to the nodal officers to have pirated content removed.
- If a complaint is submitted by a non-copyright holder, the Nodal Officer may conduct hearings to determine the complaint's validity before issuing directives.

Targeted Platforms:

- Digital platforms such as YouTube, Telegram channels, websites, and other online platforms are legally required to remove internet links containing pirated content.

Understanding Content Piracy:

- Content piracy involves the unauthorized duplication of copyrighted content, which is then distributed in the 'grey' market at significantly lower prices.
- The proliferation of the internet and the widespread desire for free access to

film content have contributed to the rampant growth of piracy.

Rationale for Regulation:

- The increase in piracy is attributed to easy access to technology and the desire for free access to film content. These measures aim to empower authorities to swiftly address piracy, providing relief to the industry.
- The Cinematograph Amendment Bill 2023 aims to address film piracy, a long-standing demand of the film industry. This Act was last significantly amended in 1984 and has been updated after 40 years to include provisions against film piracy, encompassing digital piracy.
- In India, legal actions against piracy are covered by various laws, including the Indian Penal Code, the Cinematograph (Amendment) Bill 2023, and the Information Technology Act of 2000. These statutes prescribe penalties, imprisonment, and fines for those involved in film piracy and unauthorized online distribution of copyrighted content.



CENTRAL INFORMATION COMMISSION



Why in the news?

Mr. Heeralal Samariya (IAS) has assumed the role of Chief Information Commissioner within the Central Information Commission.

Central Information Commission

- The Central Information Commission, established in 2005 under the **Right to Information Act of 2005**, holds **jurisdiction over all Central Public Authorities**.
- **Specific powers and functions:**
 - Adjudicating second appeals for information disclosure
 - Issuing directives for record maintenance
 - Proactively disclosing information
 - Investigating complaints regarding the inability to file RTI requests and imposing penalties
 - Overseeing and reporting on various matters, including preparing an Annual Report
- **Composition of CIC:**
 - Chief Information Commissioner
 - Ten Information Commissioners
- The decisions of the Commission are final and binding.

Right to Information Act (RTI), 2005

- The Indian Parliament passed the Right to Information Act (RTI) in May 2005.
- It gives citizens the right to access information held by public authorities, except in cases where the information is exempted under the Act.

- The RTI Act aims to promote transparency and accountability in government and to combat corruption.

Chief Information Commissioner (CIC) and Information Commissioners (IC):

- **Appointment:**
 - The President appoints the Chief Information Commissioner (CIC) and Information Commissioners (ICs) on the recommendations of the Appointments Committee.
- **Committee for the appointment of the CIC/IC:**
 - The Prime Minister serves as the Committee Chairperson.
 - The Leader of the Opposition in the Lok Sabha.
 - A Union Cabinet Minister is nominated by the Prime Minister.
- **Qualifications for CIC/IC**
 - Individuals eminent in public life with extensive knowledge and experience in various fields, including law, science and technology, social service, management, journalism, mass media, or administration and governance.
- **Disqualifications**
 - They cannot be a Member of Parliament or Member of the Legislature of any State or Union Territory.
 - They must not hold any other office of profit, be connected with any political party, or be engaged in any business or profession.
- **Term of Office**
 - The CIC/ICs are appointed for a **fixed term of three years**, starting from the date they assume office.
- **Retirement from Parent Service**
 - In cases where the Central or a State Government previously employed a CIC/ICs at the

time of their appointment, they are considered to have retired from their prior service with effect from the date of their appointment to the Central Information Commission.

- **Salaries**

- The Chief Information Commissioner receives a fixed monthly salary of Rs. 2,50,000 (Rupees two lakh and fifty thousand).
- Information Commissioners are entitled to a fixed monthly salary of Rs. 2,25,000 (Rupees two lakh and twenty-five thousand).

- **Removal:**

- An Information Commissioner can only be removed from office upon the order of the **President based on proven misbehaviour or incapacity.**
- This action can only be taken after the Supreme Court inquiry following a reference made to it by the President.
- President can also order the removal of the Chief Information Commissioner or any Information Commissioner if they meet any of the following criteria:
 - Are adjudged insolvent.
 - Have been convicted of an offence which, in the President's opinion, involves moral turpitude.
 - Engage in paid employment outside the duties of their office during their term of office.
 - Are, in the President's opinion, unfit to continue in office due to infirmity of mind or body.
 - Acquire financial or other interests that are likely to adversely affect their functions as the Chief Information Commissioner or an Information Commissioner.

Issues Related to the Central Information Commission

- **Limited Reach:** While the Commission has ju-

risdiction over all Central Public Authorities, it lacks control over state public authorities, which restricts its reach.

- **Dependence on Public Information Officers:** The effectiveness of the CIC relies on the appointment and cooperation of Public Information Officers. If an officer declines to accept an information request or if no officer has been appointed, the CIC's ability to function effectively is compromised.
- **Limited Resources:** The CIC faces resource constraints due to its budget, potentially impeding its capacity to carry out its functions effectively.

While the CIC plays a crucial role in promoting transparency and accountability in public authorities, it faces challenges regarding its reach, dependence on Public Information Officers and resource constraints. However, it can leverage opportunities such as digital transformation and awareness programs to overcome these challenges. It must also navigate threats such as non-compliance by public authorities and legal challenges to its decisions.

COMPOSITE WATER MANAGEMENT INDEX (CWMI)



Why in the news?

NITI Aayog is considering discontinuing a Composite Water Management Index introduced five years ago. The Aayog has reportedly designated the reports on states' water management progress for 2018-19 and 2019-20 for "internal use" after making the earlier editions publicly available.

India's Water Scenario at Glance

- India is experiencing a severe water crisis with significant economic, livelihood, and ecological consequences.
- India has approximately 17% of the world's population but only 4% of the world's fresh-water resources.

- Over 82 Crore people in India live in areas with per capita water availability close to or lower than 1000m³, the threshold for water scarcity.
- Approximately 60% of this population resides in the Ganges river basin, responsible for nearly 40% of the country's GDP.
- The Ganges River has witnessed unprecedentedly low water levels in recent summer seasons, and groundwater contribution to the river is expected to continue decreasing in the next 30 years.
- India has annual utilisable water resources of 690 Billion Cubic metres (BCM) from surface sources and 447 BCM from groundwater.
- Despite possessing surface water resources, groundwater contributes nearly 62% to irrigation, 85% to rural water supply, and 45% to urban water supply in India.
- Inefficient cropping patterns, especially the cultivation of water-intensive crops like sugarcane and paddy, exacerbate water-related issues.
- India's international trade in water-intensive crops, such as Basmati rice, contributes to significant virtual water loss.

Composite Water Management Index (CWMI)

- The NITI Aayog introduced the Composite Water Management Index (CWMI) to facilitate efficient water resource management in Indian states amidst the escalating water crisis.
- This initiative is a collaborative effort involving two key ministries: the Ministry of Jal Shakti and the Ministry of Rural Development.

Objectives of CWMI:

- **Improve Water Resource Management:** It aims to enhance water resource management in India through a collaborative approach.
- **Public Accountability:** The CWMI serves as a public platform, providing an annual overview

of the water sector and states' performance.

- **Progress Measurement:** This index evaluates states' progress in water management and performance improvements over time.

Importance of the CWMI:

- **Evidence-Based Policy:** It encourages a culture of evidence and data-driven decision-making for sustainable and efficient water resource management.
- **Promoting Federalism:** The CWMI is expected to promote the spirit of 'competitive and cooperative federalism' across the country, encouraging states to compete and cooperate in improving water management.
- **Data Accessibility:** Data incorporated in the index will be made accessible to researchers and entrepreneurs, thereby stimulating innovation within the sector.
- **Addressing Water Risk:** The collection and compilation of this strategic dataset represent a significant stride towards addressing the projected water risk and shortfall in the country.

CWMI Indicator Themes

The CWMI is structured around nine themes, each assigned a specific weight and encompasses 28 indicators. These themes cover a broad spectrum of water management aspects, including:

1. Groundwater and surface water restoration
2. Major and medium irrigation
3. Watershed development
4. Participatory irrigation management
5. On-farm water use
6. Rural and urban water supply
7. Policy and governance

Categorisation of States

To accommodate the varying hydrological conditions across different groups of reporting states, the CWMI classified them into three distinct categories:

- Non-Himalayan states
- North-Eastern and Himalayan states
- Union Territories (UTs)

Way Forward

- Addressing India's intricate water challenge demands a comprehensive perspective, including the hydrological system and its interactions with climate change, as well as the impact of human activities in agriculture, industry, and energy production.
- It is essential to enhance our understanding of finite water resources and how they are utilised, implementing measures to ensure efficient and sustainable water use.
- The nation must take immediate and decisive actions to promote responsible water management.

ONLINE BETTING



Why in the news?

The IT ministry has issued a blocking order targeting 22 betting applications, which includes Mahadev Book Online and Reddyannaprestopro. This action aligns with the ongoing investigation by the Enforcement Directorate (ED) into the Mahadev betting app case.

Background:

- The Enforcement Directorate (ED) conducted raids on Mahadev Book in Chhattisgarh under the Prevention of Money Laundering Act (PMLA).
- Illegal Betting Websites Ban: Sites like Mahadev Book Online and Reddyannaprestopro were banned by the ED due to illegal betting app syndicates.

Online Betting Apps:

- **Potential Aspects:**

- Convenience and Accessibility: Online betting apps provide easy access to betting from any location using internet-connected devices.
- Entertainment Value: Users find these apps entertaining for sports betting and gambling.
- Economic Opportunities: Some view online betting as a potential income source.
- Technological Advancements: These platforms leverage technology for an engaging user experience.

● Risks Associated:

- Addictive Nature: Convenience may lead to addictive behavior and associated problems.
- Illegal Activities: Unregulated betting apps can be linked to money laundering and illicit activities.
- Financial Risks: Users face potential financial losses due to the high-risk nature of gambling.
- Regulatory Concerns: Varied regulatory frameworks lead to concerns about uniform standards and consumer protection.

Enforcement Directorate Overview:

- **Origin:** Established as the 'Enforcement Unit' in 1956 under the Department of Economic Affairs.
- **Responsibilities:** Mandated to enforce special fiscal laws like the Foreign Exchange Management Act (FEMA) and the Prevention of Money Laundering Act (PMLA).
- **Intervention Criteria:** Steps in when a crime generates proceeds exceeding 1 crore rupees.
- **Powers:** Authorized to conduct searches and seizures if money laundering is suspected.

Note:

- Ill-gotten property acquired before 2005 falls outside the PMLA's scope, enacted in 2005.

NET NEUTRALITY



Why in the news?

In response to the government's request, the Telecom Regulatory Authority of India (TRAI) initiated an extensive consultation process to examine the necessity and potential approaches for regulating Over-The-Top (OTT) services.

Introduction:

Net neutrality is the principle that Internet Service Providers (ISPs) should provide equal and unbiased access to all online content, applications, and services, without discriminating or giving preferential treatment to any specific data. This concept holds significant importance for both consumers and the telecommunications industry.

Importance of Maintaining Net Neutrality:

- Net neutrality ensures that users have unfettered access to the entirety of the internet, promoting transparency and freedom in content consumption. It guarantees that all online services and applications are equally accessible.

Challenges for Telecom Companies:

Over the years, telecom companies have faced several challenges related to net neutrality:

- **Shift in Revenue Streams:** Traditional revenue streams, such as voice calls and SMS, have dwindled due to the emergence of Over-The-Top (OTT) services, which often offer free or cheaper alternatives.

- **Infrastructure Investment:** Telecom companies have had to invest significantly in upgrading their infrastructure to handle the increased data traffic generated by OTT services, without a proportional increase in revenue.
- **Taxation and Licensing:** Telecom companies argue that OTT services are not subject to the same level of taxation and licensing fees, creating an uneven playing field.
- **Data Consumption:** On the flip side, the use of OTT services has led to a surge in data consumption, which has become a growing revenue stream for telecom companies as they provide the connectivity for these services.

Basis Of Trai Regulation In India:

The Telecom Regulatory Authority of India (TRAI) has been at the forefront of regulating net neutrality in India. TRAI's actions have influenced the adoption of net neutrality in the country and have been recognized globally. TRAI's regulation on discriminatory tariffs for data services, introduced in 2016, played a pivotal role in shaping the net neutrality landscape in India.

Flawed Arguments Affecting Net Neutrality:

Several Flawed Arguments have been Raised by Telecom Companies in their Bid to Challenge Net

What is net neutrality?

All traffic on the internet should be treated equally.

NO BLOCKING

Your internet access provider (IAP) cannot block you from accessing legal content of your choice.

NO THROTTLING

Your IAP cannot intentionally throttle legal internet traffic to slower speeds than others traffic.

NO PAID PRIORITIZATION

Your IAP cannot sell 'fast lane' service to content providers who can pay more than others.

Neutrality:

- **OTT Platforms Sharing Bandwidth Costs:** Telecom companies demand that content providers like Netflix, Amazon Prime, and Disney+ Hotstar share the costs of bandwidth, but this argument is fundamentally flawed and undermines net neutrality principles.
- **OTTs Running on Telecom Infrastructure:** Telecom companies claim that OTT platforms are free riders benefiting from the infrastructure they maintain. However, this disregards the fact that OTT platforms invest in content delivery networks (CDNs) that enhance internet capacity.
- **Telecom Capitalizing on Data Demand:** Telecom companies capitalize on the demand generated by OTT platforms by providing internet connectivity to consumers. If they fail to cover costs, they can raise their prices, as is customary in a fair market.
- **Competition Within OTTs:** OTT services compete based on the quality and variety of content, streaming quality, user experience, and multi-device availability, and telecom companies charging both consumers and content providers creates an unfair situation.
- **Increased Costs for Consumers:** If OTT platforms concede to telecom companies' demands, the costs could be transferred to consumers through higher subscription fees or reduced service quality, affecting those relying on OTT services for entertainment, education, and work.

The Way Forward:

It is crucial for all stakeholders, including policymakers, to understand the long-term implications of acceding to the short-sighted demands of telecom companies. Upholding net neutrality principles is not only about preserving an open internet but also fostering an environment conducive to innovation, competition, and consumer welfare, particularly in countries like India where the internet plays a crucial role in Digital Public Infrastructure (DPI).

SUB-CATEGORIZATION OF SCHEDULED CASTES



Why in the news?

During his visit to Telangana, PM Modi announced that the Government of India would establish a sub-committee to reclassify reservations for Scheduled Castes, specifically focusing on empowering the Madiga community.

About:

Sub-categorization, often referred to as the classification of Scheduled Castes (SCs) into sub-groups, has been a topic of contention in the context of reservation policies in India. This practice aims to address the inequality within the SCs, recognizing that certain groups within this category may remain under-represented despite existing reservation benefits.

Special Quotas and Legislative Attempts:

- States like Andhra Pradesh, Punjab, Tamil Nadu, and Bihar have introduced special quotas for the most vulnerable Dalits within the SCs.
- In 2000, Andhra Pradesh passed a law reorganizing 57 SCs into sub-groups, attempting to allocate the SC quota in educational institutions and government jobs in proportion to their population.
- However, the 2005 Supreme Court ruling declared this law unconstitutional, asserting that states cannot modify the Presidential list identifying SCs and STs.

Presidential List and Sub-Categorization:

- Article 341 of the Constitution empowers the President to notify castes as SCs and STs.
- The Presidential list is dynamic, varying across states, with certain castes identified as SCs in one state and not in another.
- No community has been specified as SC in Arunachal Pradesh, Nagaland, Andaman & Nicobar Islands, and Lakshadweep.

Grounds for Sub-Categorization:

- Special protections for SCs originated from the historical practice of untouchability, applying to all castes regardless of economic or educational factors.
- The 2018 ruling introduced the concept of the “creamy layer,” imposing an income ceiling for eligibility for reservation.
- The creamy layer concept was upheld for SCs, prompting a review by the central government.

Arguments Against Sub-Categorization:

- Critics argue that the test of social and educational backwardness is not applicable to SCs and STs, emphasizing that special treatment is based on the historical injustice of untouchability.
- Concerns about sub-categorization being driven by political motives to appease vote-banks are raised.
- Reference to the Jarnail Singh case highlights the goal of ensuring that all backward classes progress together, with the court acknowledging existing social inequities among SCs.
- The pending review of the 2018 verdict on the creamy layer concept adds complexity to the ongoing debate.

Conclusion:

The debate around sub-categorization reflects the intricate challenges in balancing historical injustices, social realities, and the constitutional goal of achieving social transformation through reservation policies for SCs.

PM ANUSUCHIT JAATI ABHUYDAY YOJANA

Why in the news?

In the current financial year, 1260 villages became Adarsh Grams, and nine new hostels were approved for construction under Pradhan Mantri Anusuchit

Jaati Abhuyday Yojana (PM-AJAY).

Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY)

- The Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY) is a comprehensive program initiated in 2021-22, encompassing the merger of three **centrally sponsored schemes**:
 - Pradhan Mantri Adarsh Gram Yojana (**PMAGY**)
 - Special Central Assistance to Scheduled Castes Sub Plan (**SCA to SCSP**)
 - Babu Jagjivan Ram Chhatrawas Yojana (**BJRCY**)
- This integrated scheme **aims to uplift Scheduled Caste (SC) communities** by generating additional employment opportunities through skill development, income-generating projects, and various initiatives.
- The Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY) is implemented by the **Ministry of Social Justice and Empowerment**.

Key Objectives of PM- AJAY:

- Reducing poverty within SC communities.
- Creating additional employment opportunities through skill development and income-generating schemes.
- Enhancing socio-economic indicators.
- Ensuring adequate infrastructure in SC-dominant villages.
- Elevating the living standards and livelihood security of SC families.
- Promoting education and addressing maternal and infant mortality.
- Eliminating malnutrition, particularly among children and women.

Components of PM- AJAY:

- **Development of SC Dominated Villages (Adarsh Gram)**

- The primary goal of this component is the integrated development of SC-majority villages.
- It includes providing essential infrastructure and improving socio-economic indicators to eliminate disparities between SC and non-SC populations.
- **Grants-in-Aid for District/State-level Projects**
 - This component focuses on the socio-economic betterment of SCs and may encompass the following types of projects:
 - **Comprehensive Livelihood Projects:** Projects that create sustainable income opportunities for SCs.
 - **Skill Development:** Skill development courses and infrastructure as per government norms.
 - **Grants for Creation/Acquisition of Assets:** Financial assistance for asset creation needed for livelihood generation.
 - **Infrastructure Development:** Enhancing infrastructure related to projects, including hostels and residential schools.

Special Provisions for Allocation of Resources

- Economically Viable Projects for SC Women – Up to 15%
- Infrastructure Development – Up to 30%
- Skill Development – At least 10%
- Promotion of SC women cooperatives involved in producing and marketing consumer goods and services.

Construction of Hostels

- This component focuses on constructing hostels in top-ranked higher educational institutions and schools funded by the central, state, or union territory governments.

PARLIAMENTARY SESSIONS IN INDIA

Why in the news?

The Parliament's Winter session is scheduled to start on December 4th and extend till December 22nd.

About:

Parliamentary sessions in India, as delineated in Part-V (Article 79 – 122) of the Constitution, are pivotal periods for legislative activities. A nuanced grasp of the organization, composition, duration, officers, procedures, privileges, and powers of the Parliament is essential for a comprehensive understanding of its functioning.

Sessions:

- **Budget Session (February to May):** Primarily centered on budgetary deliberations.
- **Monsoon Session (July to September):** Addresses a diverse range of legislative issues.
- **Winter Session (November to December):** Focuses on specific agenda items.

Session Structure:

- **Meetings and Sittings:** A session consists of multiple meetings, each featuring two sittings – one in the morning (11 am to 1 pm) and another post-lunch (2 pm to 6 pm).

Summoning:

- Summoning involves calling all members of Parliament to convene.
- It is the responsibility of the Indian President to summon each House of Parliament periodically.
- Parliament is required to meet at least twice a year, with a maximum gap between two sessions not exceeding six months.

Adjournment:

- Adjournment temporarily halts the proceedings

during a sitting for a specified period, which can range from hours to days or weeks.

- An adjournment concludes a sitting but does not end a session of the House.
- The authority to adjourn lies with the presiding officer of the House.

Adjournment Sine Die:

- Adjournment sine die signifies concluding a parliamentary sitting indefinitely without specifying a date for reconvening.
- When the House is adjourned without setting a day for reassembly, it is termed adjournment sine die.
- The power to adjourn sine die rests with the presiding officer of the House.

Prorogation:

- Prorogation refers to ending a session of the House through a presidential order under Article 85(2) (a) of the Constitution.
- Prorogation terminates both the sitting and session of the House.
- Typically, shortly after the presiding officer adjourns the House sine die, the President issues a notification for proroguing the session. However, the President can also prorogue the House while in session.

Dissolution:

- Dissolution marks the conclusion of the existing House's tenure, leading to the formation of a new House after general elections.
- The Rajya Sabha, being a permanent House, is not subject to dissolution; only the Lok Sabha can be dissolved.
- The dissolution of the Lok Sabha can occur in two ways: automatic dissolution or by the President's order.

PRELIMS QUESTIONS

Q1. With reference to the Constitution of India, consider the following statements:

1. The Constitution of India restricts the government from granting reservation in access of 50%.
2. It enables the government to make special provisions for advancing Scheduled Castes and the Scheduled Tribes.
3. State government can not make provisions of reservations in private institutions.

How many of the above statement/s is/are correct?

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

Q2. Consider the following statements:

1. The Constitution of India provides for the reservation of seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha and State Legislative Assemblies.
2. For the first time, the government of Bihar reserved 65% of seats for different backward castes in the state assembly.
3. The 103rd Amendment makes reservations for Economically Weaker Sections (EWS) in State Government-run educational institutions or State Government jobs.

How many of the abovementioned statements are correct?

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

Q3. With reference to the Finance Commission, consider the following statements:

1. It is established as a constitutional body.
2. It provides recommendations on distributing tax revenues among the Union and the States and the Local Bodies.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q4. Consider the following statements regarding the Finance Commission:

1. The Constitution has specified the qualifications for the chairman and members.
2. The Commission's recommendations are advisory and not binding on the government.
3. The Commission plays a vital role in Indian fiscal federalism.

How many of the abovementioned statements are correct?

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

Q5. In which of the following cases is the governor bound to give his assent to a bill passed by the state assembly?

- (a) Money bill
- (b) Private member's bill
- (c) Prime minister has resigned from his office
- (d) Bill is again passed by the House or Houses with or without amendment
- (e) State assembly has passed a unanimous resolution

in support of the pending bill

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2, 4, and 5 only
- (c) 1 and 4 only
- (d) 1, 3, 4, and 5 only

Q6. Consider the following articles of the Constitution:

1. Article 148
2. Article 151
3. Article 226
4. Article 74

How many of the above statement/s is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q7. With reference to the Broadcasting Services (Regulation) Bill, 2023, consider the following statements:

1. It aims to supersede the Information Technology Act of 2000.
2. The Bill expands its scope to include Over-the-Top (OTT) content, digital news, and traditional broadcasting services.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q8. Consider the following statements:

1. The Election Commission of India (ECI) is responsible for the allotment of election symbols

2. Reserved symbols are exclusive to recognized political parties

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

Q9. Which of the following is the Sadiq Ali case related to?

- (a) Election symbol disputes
- (b) Land acquisition laws
- (c) Environmental conservation
- (d) Tax reform legislation

Q10. With reference to Preventive Detention, consider the following statements:

- 1. The powers to put a person in such detention are conferred by the Part IV of the Constitution.
- 2. It involves individuals awaiting trial for a crime they are accused of committing

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

Q11. Parliament has the authority to make a law of preventive detention for reasons connected with how many of the following reasons:

- 1. Defence
- 2. Foreign affairs
- 3. Security of India
- 4. Maintenance of public order
- 5. Maintenance of supplies and services essential to the community

6. Protection of interests of any scheduled tribe

Select the correct answer using the codes:

- (a) Only three
- (b) Only four
- (c) Only five
- (d) All six

Q12. With reference to Parliamentary Committees, consider the following statements:

- 1. The Parliamentary Committees find their mention in the Constitution of India.
- 2. The Parliament is obligated to follow the committee's recommendations.

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

Q13. Consider the following:

- 1. The Parliamentary Committees improve parliament's effectiveness.
- 2. They are completely free from influences from the government and pressure groups.
- 3. All constitutional amendment bills undergo committee scrutiny.

How many of the abovementioned statements are correct?

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

Q14. Consider the following statements regarding the measures to combat film piracy in India:

- 1. Twelve nodal officers have been appointed to

manage piracy-related complaints, with a mandatory 48-hour response time.

2. Those involved in piracy may face fines ranging from INR 3 lakh to five percent of the gross audited value of production.
3. Cinematograph Amendment Bill 2023 deals with piracy related matters

How many of the above statement/s is/are correct?

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

Q15. With reference to the Central Information Commission, consider the following statements:

1. The Central Information Commission is a statutory body under the Information Commission Act 2005.
2. The Central Information Commission holds jurisdiction over all Central and State Public Authorities.
3. The decisions of the Central Information Commission are final and binding.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q16. Consider the following statements regarding Information Commissioners:

1. The President appoints the Chief Information Commissioner (CIC) and Information Commissioners on the recommendation of the Cabinet.
2. The CIC/ICs are appointed for a fixed term of five years.
3. The terms of service and salaries of CIC and ICs are equal to the Chief Election Commissioner

and Election Commissioners.

How many of the abovementioned statements are correct ?

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

Q17. With reference to Composite Water Management Index (CWMI), consider the following statements:

1. The NITI Aayog has published the Composite Water Management Index (CWMI).
2. It aims to enhance water resource management in India through a collaborative approach.
3. CWMI classified the states into three distinct categories: Large states, small states, and Union Territories (UTs).

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q18. Consider the following:

1. India has 17% of the world's population but 40% of the world's freshwater resources.
2. Water scarcity is encountered when the annual water supply falls below 1,000 m³ per individual.
3. India has annual utilisable water resources from surface sources greater than groundwater.

How many of the statements are correct?

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

Q19. Consider the following statements regarding the Enforcement Directorate (ED):

1. The Enforcement Directorate was founded as the 'Enforcement Unit' in 1956 under the Department of Economic Affairs.
2. The Enforcement Directorate intervenes in cases where the crime generates proceeds exceeding 1 crore rupees.

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

Q20. Consider the following statements about the concept of net neutrality:

1. Allowing Internet Service Providers (ISPs) to prioritize certain online content and applications over others.
2. Providing equal and unbiased access to all online content, applications, and services by ISPs, without discrimination or preferential treatment.
3. Regulating the prices of Internet service plans to ensure affordability for consumers.
4. Promoting the use of virtual private networks (VPNs) for secure online browsing.

How many of the above statement/s is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q21 Which of the following objectives are associated with the "Digital India" initiative of the Government of India? (2018)

1. Developing India's own Internet companies similar to China's approach.
2. Creating a policy framework to incentivize in-

ternational corporations collecting Big Data to establish large data centers within India.

3. Extending Internet access to many villages and providing Wi-Fi in schools, public areas, and popular tourist destinations.

Select the correct answer using the code given below:

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

Q22. With reference to reservation for SC/ST's , consider the following statements:

1. Article 341 empowers the President to identify and notify certain castes as Scheduled Castes (SCs) and Scheduled Tribes (STs).
2. The Presidential list is uniform across all states, ensuring that the same castes are identified as SCs in every state.
3. No community has been specified as SC in Arunachal Pradesh, Nagaland, Andaman & Nicobar Islands, and Lakshadweep.

Which of the statements given above is/are correct?

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

Q23. With reference to Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY), consider the following statements:

1. PM AJAY is a central sector scheme.
2. It is being implemented by the Ministry of Tribal Affairs.
3. This integrated scheme aims to uplift Scheduled Tribes (ST) communities.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q24. Consider the following:

1. Development of Villages
2. Skill Development
3. Infrastructure Development
4. Construction of Hostels
5. Scholarships to Meritorious Students

How many of the above are components/ sub-components of Pradhan Mantri Anusuchit Jaati Abhuyday Yojana?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) Only four

Q25. With reference to summoning of Parliament, consider the following statements:

1. It is the responsibility of the Presiding officer of the house to summon each House of Parliament periodically.
2. Parliament is required to meet at least twice a year, with a maximum gap between two sessions not exceeding six months.

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

Q26. Regarding adjournment and adjournment sine die, Consider the following statements:

1. An adjournment concludes a sitting but does

not end a session of the House.

2. When the House is adjourned without setting a day for reassembly, it is termed adjournment sine die.
3. The power to adjourn sine die rests with the President.

How many of the above statements are correct?

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

ANSWERS

S. No.	Answer
1.	A
2.	B
3.	A
4.	B
5.	C
6.	B
7.	B
8.	D
9.	A
10.	D
11.	C
12.	D
13.	A
14.	C
15.	D
16.	D
17.	A
18.	B
19.	C

20.	A
21.	D
22.	D
23.	D
24.	D
25.	B
26.	B

MAINS QUESTIONS

Q1. Examine the implications of conducting a caste census in India, particularly in light of the recent enactment of the Bihar Reservation Amendment Bill.

Q2. The Finance Commission is regarded as a balancing wheel of fiscal federalism in India. Discuss.

Q3. In the context of a democratic system, critically analyze the role of Governors in states. Discuss the constitutional provisions defining their powers and responsibilities and examine instances where Governors' actions have been contentious

Q4. The appointment method and the extensive powers vested in the Comptroller and Auditor General (CAG) underscore the crucial role this office plays in governance. Elaborate on the significance of these aspects in defining the CAG's role and responsibilities. (2018)

Q5. Explain the key objectives of the Broadcasting Services (Regulation) Bill, 2023 and its significance in the context of the evolving broadcasting landscape in India.

Q6. Examine the role and challenges related to the impartiality of the Election Commission of India (ECI) in ensuring fair and free elections.

Q7. Discuss the evolution, significance, and challenges associated with preventive detention laws in India.

Q8. Parliamentary democracy would be incomplete without Parliamentary committees. Discuss.

Q9. Discuss the impact of digital piracy on intellectual property rights (IPR) and the creative in-

dustries. How can governments and international organizations enhance the protection of IPR in the digital age while also balancing the right to access information

Q10. Central Information Commission plays a crucial role in promoting transparency and accountability in public authorities. Discuss.

Q11. Discuss the significance of NITI Aayog's of Composite Water Management Index (CWMI) in the context of India's severe water crisis.

Q12. Online betting has become a prominent phenomenon in the digital age, providing both convenience and entertainment to users. However, it also raises various socio-economic and regulatory concerns. In the context of online betting, discuss the impact on society, the economy, and the challenges of regulating this industry.

Q13. Discuss the significance of net neutrality in ensuring an open and fair internet ecosystem. How does the principle of net neutrality impact the rights of consumers and the business practices of Internet Service Providers (ISPs)? Provide examples and arguments to support your answer.

Q14. Discuss the concept of sub-categorization within the Scheduled Castes category in the context of Indian reservation policies. Provide your insights on whether sub-categorization is a viable approach to addressing the internal inequalities within the Scheduled Castes.

Q15. Discuss the various welfare schemes for Scheduled Caste (SC) communities in India. Analyse the key challenges and achievements in the implementation of these schemes.

Q16. Discuss the significance and functions of parliamentary sessions in a democratic system. Elaborate on how the structure of parliamentary sessions contributes to effective governance, legislative processes, and the representation of citizens' interests.

Q17. Critically analyse the constitutional control over pending bills passed by state assemblies awaiting the governor's assent and explore the discretionary role of governors in the states.



SCO MEETING OF THE HEADS OF GOVERNMENT



Why in the news?

The 22nd meeting of the Heads of Government (Prime Ministers) Council of the Shanghai Cooperation Organisation occurred in Bishkek, Kyrgyzstan.

Shanghai Cooperation Organization:

- The Shanghai Cooperation Organisation (SCO) was formed by China and Russia in 2001. It focuses on politics, economics, international security, and defence in Eurasia.
- The SCO is the largest regional organisation in the world, covering about 60% of Eurasia's area and 40% of the global population. In 2021, its combined GDP accounted for roughly 20% of the global GDP.

Membership of SCO:

- **Members:**
 - China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.
- **Observers:**
 - Afghanistan, Belarus, and Mongolia
- **Dialogue Partners:**
 - Azerbaijan, Armenia, Egypt, Qatar, Turkey, Saudi Arabia, the United Arab Emirates, Maldives, Nepal, and Sri Lanka



SCO
Shanghai Cooperation Organization



Founded in 2001

It aims to

- Resolve border issues
- Fight terrorism
- Bolster regional security
- Counter American Influence in Central Asia

SCO Members

1.	China
2.	Kazakhstan
3.	Kyrgyzstan
4.	Russia
5.	Tajikistan
6.	Uzbekistan
7.	India
8.	Pakistan



Importance of SCO

- It seen as an Eastern counter-balance to NATO.
- Enhances security cooperation among members.
- Helps deal with terrorism, particularly IS terrorists.
- Increase economic cooperation in the region.
- China's One Belt and One Road (OBOR) initiative.
- India's push for connectivity with Chabhar port in Iran.
- International North-South Transport Corridor connecting the sub-continent with Central Asian countries

Issues

- India's objections to China on OBOR.
- Traditional hostility between India and Pakistan.
- Russia and China standoff over Ukraine.

Origins of SCO:

- The SCO was formed from the original '**Shanghai Five**' alliance, which consisted of **Russia, China, Kazakhstan, Kyrgyzstan, and Tajikistan**.
- The purpose of this alliance, established in 1996 after the Soviet era, was to address regional security concerns, reduce border troop presence, and combat terrorism.
- In 2001, **Uzbekistan** was embraced into the Shanghai Five, leading to the group's transformation into the SCO.
- By June 2017, the organization experienced further expansion, reaching a total of eight member states, with the inclusion of **India and Pakistan**.
- **Iran joined the group in July 2023.**

Institutional Framework:

- **SCO Councils:**
 - **SCO Heads of State Council:** This is the highest authority within the SCO, responsible for setting priorities, defining the Organization's primary activities, determining its internal structure, managing its interactions with other States and international organisations, and addressing pressing global issues.
 - **SCO Heads of Government Council:** This Council, comprising Prime Ministers, is responsible for approving the Organization's budget and making decisions related to specific areas of interaction, especially those of an economic nature, within the SCO.
 - **SCO Foreign Ministers Council:** This council focuses on the day-to-day operations of the SCO, including preparing Heads of State Council meetings and conducting consultations on international issues. Additionally, it has the authority, when appropriate, to issue statements on behalf of the SCO.
- Two permanent bodies support the organisation:

- **SCO Secretariat** located in Beijing
- **Executive Committee of the Regional Anti-Terrorist Structure** has its headquarters in Tashkent.

- **Chinese and Russian** serve as the recognised official languages within the SCO.

Objectives of The SCO:

- **Enhancing mutual trust and fostering neighbourly relations** among participating nations
- Facilitating **comprehensive collaboration across diverse sectors** such as politics, commerce, economics, scientific research, technology, cultural exchange, education, energy, transportation, tourism, and environmental conservation
- Collectively striving to uphold **peace, security, and stability** within the region
- Dedicating efforts to shape a **global political and economic framework** that embodies democratic principles, fairness, and rationality

Regional Anti-Terrorist Structure (RATS):

- The Regional Anti-Terrorist Structure (RATS) Executive Committee, based in Tashkent, Uzbekistan, is a permanent body of the SCO.
- Its primary purpose is facilitating cooperation among member states in combating the three evils of terrorism, separatism, and extremism.
- The appointment of the Director of the SCO RATS Executive Committee is for a duration of three years.
- Each member state appoints a permanent representative to RATS to ensure continuous communication and coordination.

More about the News: SCO Meeting of the Heads of Government

- The **SCO Council of Heads of Government (CHG)** convenes **annually** to deliberate on strategies for multilateral cooperation and to approve the organisation's yearly budget, among

other agenda items.

- The External Affairs Minister of India urged members of the Shanghai Cooperation Organisation (SCO) to collaborate in advancing stability and prosperity in the region.
- He stressed the significance of strictly adhering to international law, respecting one another's sovereignty and territorial integrity, and fostering economic cooperation.
- Additionally, he highlighted the **potential of the India-Middle East-Europe Economic Corridor (IMEC)** and the **International North-South Transport Corridor (INSTC)** as catalysts for prosperity.

The SCO remains important for India due to its strategic, economic, and cultural significance, despite limited achievements. India's continued engagement in its future endeavors is crucial, and media and think tanks can play a role in monitoring developments that affect national interests.

UNITED NATIONS INTERIM FORCE IN LEBANON (UNIFIL)



Why in the news?

According to recent news reports, the United Nations Interim Force in Lebanon (UNIFIL) reported that one of its personnel was injured following shelling near the border between Israel and Lebanon.

United Nations Interim Force in Lebanon (UNIFIL)

- UNIFIL is a Peacekeeping Force established in March 1978 by the United Nations Security Council to serve as a buffer between Lebanon and Israel along the Blue Line.
- Its primary objectives were to confirm the withdrawal of Israeli forces from Lebanon, restore international peace and security, and assist the Lebanese government in regaining control of the area.
- UNIFIL's mandate has evolved in response to

changing circumstances, with adjustments in 1982 and 2000 and further enhancements following the 2006 Israel–Hezbollah War.

- UNIFIL is funded through a separate account approved annually by the United Nations General Assembly.

Blue Line

- The Blue Line, established by the United Nations on June 7, 2000, serves as a demarcation line between Lebanon and Israel, as well as Lebanon and the Golan Heights.
- Its primary purpose was to assess the complete withdrawal of Israeli forces from Lebanon.
- This demarcation has been characterised as “temporary” and not a formal border but a “line of withdrawal.”

Current Mandate:

- Monitoring the cessation of hostilities.
- Supporting the deployment of the Lebanese armed forces in southern Lebanon.
- Helping ensure humanitarian access to civilian populations.
- Facilitating the voluntary and safe return of displaced persons.

Role and Impact

- **Promoting Stability:** The mission is crucial in promoting stability and security in Lebanon.
- **Monitoring Efforts:** Through its monitoring efforts, the organisation helps maintain the cessation of hostilities and prevent conflicts.
- **Support for Lebanese Armed Forces:** UNIFIL supports the deployment and capacity-building of the Lebanese armed forces in southern Lebanon, enhancing the country's security.
- **Humanitarian Access:** By ensuring humanitarian access to civilian populations, the organisation helps address the needs of vulnerable communities in the region.

- **Displaced Persons:** UNIFIL's role in facilitating the voluntary and safe return of displaced persons contributes to restoring normalcy and stability in the area.

United Nations Peacekeeping Operations

- UN peacekeeping missions play a critical role in providing security and offering political and peacebuilding support to assist nations in navigating the challenging transition from conflict to peace. Currently, there are 12 UN peacekeeping operations active worldwide.
- These operations operate based on fundamental principles:
 - **Consent of the Parties:** UN Peacekeeping operations require the consent of all involved parties to operate effectively.
 - **Impartiality:** Peacekeepers are committed to maintaining impartiality in their activities and interactions.
 - **Non-Use of Force:** UN Peacekeeping forces utilise force solely in self-defence or to uphold their designated mandates.
- UN peacekeeping operations are typically **authorised by the UN Security Council**, which sets out the mission's mandate and provides the necessary resources.
- Recognising its contributions to global peace and security, UN Peacekeeping has been honoured with the Nobel Peace Prize.

India's Contribution to UN Peacekeeping And UNIFIL:

- India contributes the **second highest troops to the UNIFIL. It is one of the largest contributors to UN peacekeeping**, with around 5,900 Indian troops deployed in 12 missions.
- India has established a centre for UN Peacekeeping in New Delhi and provides training to more than 12,000 troops every year.
- India contributes troops, police personnel, staff officers, and experts to all 12 active UN peacekeeping missions.

- India has the highest contribution of troops in regions including the Central African Republic, South Sudan, the Democratic Republic of Congo, Mali, Lebanon, Abyei, and Cyprus, among others.

INDIA – QATAR



Why in the news?

In a recent development, a Qatari court sentenced eight former Indian Navy veterans who were detained in Doha in 2022 to death.

India's Gas Import Dependency And Trade With Qatar

- **Imports from Qatar:**
 - In FY2022-23, India's total imports from Qatar amounted to \$16.81 billion.
 - LNG imports alone represented a significant portion at \$8.32 billion, accounting for 5% of the total imports.
 - Other major imports from Qatar include fossil fuel-related commodities like liquefied petroleum gas (LPG), plastics, and petrochemical products.
 - Petronet LNG, a government-owned entity, holds a long-term contract with Qatar for importing 8.5 million tonnes per annum (mtpa) of LNG.
- **Exports to Qatar:**
 - In the same fiscal year, India's exports to Qatar were valued at \$1.97 billion.
 - Key exports encompass cereals, copper articles, iron and steel products, vegetables, fruits, spices, and processed food items.

Qatar's Significance For India

- **Indian Diaspora in Qatar:**
 - Over 800,000 Indian nationals call Qatar

their home.

- They constitute the largest expatriate community in Qatar, contributing to various sectors such as medicine, engineering, education, finance, banking, business, media, and a substantial number in blue-collar jobs.
- **Imports and Exports:**
 - Qatar is a vital trade partner for India.
 - Key exports from Qatar to India include LNG, LPG, chemicals, petrochemicals, plastics, and aluminum articles.
 - India reciprocates with exports to Qatar, such as cereals, copper articles, iron and steel products, vegetables, fruits, spices, processed food items, electrical and machinery, plastic products, construction materials, textiles and garments, chemicals, precious stones, and rubber.
 - India ranks among the top three largest export destinations for Qatar, alongside China and Japan, and is among the top three sources of Qatar's imports, along with China and the United States.
- **Defense Ties:**
 - India and Qatar share defense ties with various collaborations.
 - India provides training opportunities in its defense institutions to several partner countries, including Qatar.
 - India takes an active part in the biennial Doha International Maritime Defence Exhibition and Conference (DIMDEX) hosted in Qatar.
 - Indian Naval and Coast Guard ships make regular visits to Qatar, enhancing bilateral cooperation.
 - The India-Qatar Defense Cooperation Agreement, initially signed during the Indian Prime Minister's visit to Qatar in November 2008, was extended for an additional five years in November 2018, solidifying

defense cooperation between the two nations.

Geostrategic Significance of India-Qatar Relations

- **GCC Membership:**
 - Qatar's membership in the Gulf Cooperation Council (GCC) holds considerable geostrategic importance for India, particularly regarding sensitive matters like Kashmir.
- **UNSC Support:**
 - India's pursuit of a permanent seat at the United Nations Security Council (UNSC) necessitates backing from nations like Qatar.



Concerns Impacting India-Qatar Relations:

- **Religious Controversy:**
 - In June 2022, a controversy erupted due to derogatory remarks about the Prophet on a TV show, causing tensions between India and Qatar.
 - Qatar demanded a public apology, which India promptly addressed by removing the individual responsible.
- **Recent Shift-Overs:**
 - A notable challenge arises from the imprisonment of eight former Navy personnel in

Qatar.

- This incident caught India off guard, especially given the presence of a substantial Indian expatriate community in Qatar, rendering India-Qatar relations a delicate issue.

INDIA-BHUTAN



Why in the news?

Bhutan's King, Jigme Khesar Namgyel Wangchuck, has arrived in New Delhi amidst critical border discussions with China, sparking some apprehension in the Indian capital.

Border Dynamics:

- India and Bhutan share a 649-km-long border, with a significant 267-km boundary adjacent to Assam, India.

India-Bhutan Diplomatic Relations:

- Diplomatic relations were formalized in 1968 when India appointed a resident representative in Thimphu, taking over the role previously managed by the Political Officer in Sikkim.
- The cornerstone of their bilateral ties is the 1949 Treaty of Friendship and Cooperation, updated in 2007 during the visit of Bhutan's King Jigme Khesar Namgyel Wangchuck to India.

Economic Relations:

- India stands as Bhutan's primary trading partner and export destination.
- Bhutan leverages its hydropower potential for substantial revenue, with India's active support in developing its hydropower projects.
- India offers financial assistance for Bhutan's development projects.

Significance of Bhutan for India:

- Bhutan holds strategic importance for India due to its location between India and China, serving

as a buffer state that aligns with India's security interests.

- India has played a pivotal role in preserving Bhutan's sovereignty and territorial integrity.
- Assistance from India has bolstered Bhutan's defense, infrastructure, and communication capabilities, reinforcing its territorial integrity.
- In the 2017 Doklam standoff, Bhutan facilitated Indian troops' entry into its territory to counter Chinese incursions, highlighting Bhutan's strategic significance for India.



Challenges and Concerns:

- **China's Growing Influence:** The expanding presence of China in Bhutan, especially along the disputed Bhutan-China border, is a matter of concern for India. China's economic and military influence in the region poses challenges to India's strategic interests in Bhutan.
- **Border Disputes:** While the India-Bhutan border has generally been peaceful, there have been sporadic instances of border incursions by Chinese forces. The Doklam standoff in 2017, a tri-junction issue involving India, China, and Bhutan, raised tensions. Escalation of such disputes has the potential to strain India-Bhutan relations.

2+2 MINISTERIAL DIALOGUE



Why in the news?

The Defence Minister and External Affairs Minister of India convened with their counterparts from the United States government for the fifth instalment of the 2+2 Ministerial Dialogue, conducted in New Delhi.

2+2 Ministerial Dialogue

- The 2+2 meetings involve high-level representatives from both participating countries, specifically the Ministers responsible for Foreign Affairs and Defence.
- The main aim of these meetings is to expand the range of discussions, fostering improved comprehension of each other's strategic concerns and sensitivities.
- This mechanism fosters a more robust and integrated strategic relationship, especially in the dynamic global environment.
- India has held 2+2 meetings with the following countries:
 - **United States (5 times)**
 - **Japan (3 times)**
 - **Australia (2 times)**
 - **Russia (1 time)**

India-US 2+2 Ministerial Dialogue:

- The India-US 2+2 Ministerial Dialogue is an annual event held since 2018.
- The latest meeting occurred in New Delhi on November 10, 2023, symbolising the strengthening strategic alliance between India and the United States.
- Discussions cover diverse topics, including defence cooperation, trade, investment, technology, and coordination on global issues like the

Indo-Pacific region, counterterrorism, and climate change.

India-Japan 2+2 Ministerial Dialogue:

- The India-Japan 2+2 Ministerial Dialogue has occurred three times in 2019, 2021, and 2023.
- The latest meeting transpired in Tokyo on March 8, 2023.
- This meeting underscores the unique strategic partnership between India and Japan.
- Discussions cover defense collaboration, maritime security, trade, investment, technology, and the alignment on regional and global issues, including the Indo-Pacific region and participation in the Quadrilateral Security Dialogue (Quad).



India-Australia 2+2 Ministerial Dialogue:

- The India-Australia 2+2 Ministerial Dialogue, initiated in 2020, held its second meeting in New Delhi on September 11, 2023.
- This meeting reflects the growing strategic partnership between India and Australia.
- Topics discussed include defence cooperation, maritime security, trade, investment, technology, and coordination on regional and global issues, including the Indo-Pacific region and the Quad.

India-Russia 2+2 Ministerial Dialogue:

- India has held one 2+2 meeting with Russia in New Delhi on December 6, 2021.
- The Indian and Russian Foreign and Defense Ministers attended the meeting.
- It is a sign of the growing strategic partnership between the two countries.
- India and Russia have a long history of close ties, and the 2+2 meeting provides a high-level forum for discussing and strengthening bilateral relations on various issues, including defence, security, trade, investment, and technology.

Significance for Indian Diplomacy

- 2+2 meetings allow for high-level dialogue between India and its key partners on various issues, including defence, security, trade, investment, and technology.
- It helps build trust and understanding between India and its partners, which is essential for strengthening bilateral relations.
- It serves as a forum for India to collaborate with its allies on regional and global matters, including the Indo-Pacific region, counterterrorism, and climate change.
- The meetings strongly signal India's commitment to its strategic partnerships.

INDIA'S POSITION ON ISRAEL-PALESTINE CONFLICT



Why in the news?

India recently supported a resolution at the UN General Assembly that denounces Israeli settlement activities in the "Occupied Palestinian Territory."

About the Resolution on Israeli settlement

- The UN General Assembly's Special Political and Decolonisation Committee (Fourth Committee) approved a resolution titled 'Israeli settlements

in the Occupied Palestinian Territory, including East Jerusalem, and the occupied Syrian Golan' through a recorded vote. The vote results were 145 in favor, seven against, and 18 abstentions.

- The resolution explicitly states that Israeli settlements in the Occupied Palestinian Territory are considered illegal and are identified as impediments to peace, as well as obstacles to economic and social development.
- Moreover, the resolution reiterates the demand for the immediate and complete cessation of all Israeli settlement activities throughout the entire Occupied Palestinian Territory.
- India, alongside nations such as Bangladesh, Bhutan, China, France, Japan, Malaysia, Maldives, Russia, South Africa, Sri Lanka, and the U.K., was one of the 145 nations that voted in favour of the resolution.

Evolution of India's Position on the Israel-Palestine Conflict

- **Historical Stance**
 - India's solidarity with the Palestinian people traces back to its freedom struggle against British colonialism.
 - Notably, in 1938, Mahatma Gandhi opposed the proposal for a Jewish homeland in Palestine.
 - In 1947, India voted against the partition of Palestine at the United Nations General Assembly, and post-independence, support for Palestine became a fundamental aspect of India's foreign policy.
- **Recognition of Palestine**
 - In 1974, India became the first non-Arab nation to acknowledge the Palestine Liberation Organization (PLO) as the exclusive representative of the Palestinian people.
 - In 1988, India took a significant step by being one of the first countries to recognise the state of Palestine.

- Following the creation of the Palestine Authority through the Oslo Peace Accord, India established a Representative Office, initially in Gaza and later relocated to Ramallah in 2003.

● Support at International Forums

- India has consistently played a proactive role in garnering support for the Palestinian cause at multilateral forums.
- The country has been steadfast in voting in favour of numerous UN resolutions supporting Palestine.

Recent Developments

● Shift in Stance

- In 2017, Narendra Modi became the first Indian Prime Minister to visit Israel, while in 2018, Israeli PM Netanyahu visited India.
- Under the leadership of Prime Minister Narendra Modi, India has demonstrated a more pronounced pro-Israel stance.
- This shift is evident in the public camaraderie between the prime ministers of India and Israel.
- However, despite this change, India's official position advocating for a two-state solution, with Israel and Palestine as good neighbours, remains unwavering.

● Commitment to a Two-State Solution

- India continues to adhere to its traditional belief in the two-state solution and supports establishing a sovereign, independent, and viable state of Palestine.
- Despite the deepening relationship with Israel in recent years, India's support for Palestine has not waned.

Way Forward for India

- Diplomatic Continuity: India should persist in diplomatic efforts, utilising its international influence to encourage both Israel and Palestine

to return to the negotiating table.

- Humanitarian Assistance: India must continue providing crucial humanitarian aid to address the immediate needs in conflict-affected areas, thereby alleviating the suffering of the Palestinian people.
- Mediation Role: As a mediator, India can facilitate meaningful dialogues that lead to a lasting resolution, emphasising its commitment to justice and peace in the region.
- People-to-People Engagement: India can foster dialogues and exchanges between Israeli and Palestinian civil society groups, academics, and youth. This initiative aims to promote mutual understanding and trust through people-to-people interactions.

In conclusion, as India moves forward, it must remain steadfast in its commitment to promoting peace, stability, and justice in the region. India can actively contribute to the ongoing pursuit of a just and lasting resolution to the Israel-Palestine conflict.



INDO-PACIFIC REGIONAL DIALOGUE (IPRD)



Why in the news?

The Indian Navy Chief, Admiral R Hari Kumar, recently addressed the Indo-Pacific Regional Dialogue (IPRD), expressing concerns over the militarization of the Indo-Pacific and the fragile security situation in the South China Sea.

Indo-Pacific Regional Dialogue (IPRD):

- Indo-Pacific Regional Dialogue (IPRD) was Jointly hosted by the Indian Navy and the National Maritime Foundation.
- Highlighted the fragile security situation in the South China Sea, emphasizing violations of established Codes of Conduct as a clear threat to regional order.
- Admiral R Hari Kumar warned of China's aggressive behavior, its violation of established codes of conduct, and the potential for conflicts arising from differing interpretations of international laws.

About "Indo-Pacific" :

The term "Indo-Pacific" has gained prominence over the last decade, reflecting the interconnected strategic significance of the Indian Ocean and the Pacific. This concept has risen in prominence due to the recognition of these oceans as a linked strategic theater, driven by shifting global dynamics, particularly the centrality of Asia in international affairs.

Significance of the Indo-Pacific Region:

- **Strategic Theater:**
 - Acknowledges the interconnectedness of the Indian Ocean and the Pacific as a unified strategic theater.
 - Maritime routes in these regions are central to global trade, emphasizing their pivotal role in shaping geopolitical dynamics.

● Economic Activity and Population:

- Encompassing four continents—Asia, Africa, Australia, and America—the Indo-Pacific region stands as one of the most populous and economically active areas globally.
- With 60% of the world's population and two-thirds of global economic output, it serves as a crucial global economic center.

● Foreign Direct Investment (FDI):

- The Indo-Pacific region is a significant source and destination for Foreign Direct Investment.
- Many critical and large supply chains have a connection to the Indo-Pacific, underscoring its importance in the global economic landscape.

● Abundance of Marine Resources:

- The combined Indian and Pacific Oceans house vast reserves of marine resources, including offshore hydrocarbons, methane hydrates, seabed minerals, and rare earth metals.
- Littoral countries, with sizable coastlines and Exclusive Economic Zones (EEZs), possess competitive capabilities for exploiting these valuable resources.

● Global Economic Players:

- Home to several of the world's largest economies, the Indo-Pacific region includes influential players such as India, the U.S.A, China, Japan, and Australia.
- The concentration of economic power in the region further solidifies its impact on global economic dynamics.

India's Concerns:

● IMEC Project:

- India's upcoming India-Middle East-Europe Economic Corridor (IMEC) faces potential hindrance due to China's presence in the Indian Ocean.

- IMEC involves multimodal economic corridors, integrating shipping, railways, roadways, electricity cables, high-speed data cables, and a hydrogen pipeline.
- **China's 'Grey Zone' Tactics:**
 - China's use of 'grey zone' tactics in the Indo-Pacific to coerce neighbors and expand territorial claims.
 - Grey Zone Tactics is a strategic approach in which a nation seeks to gain advantages over another without engaging in overt warfare. It involves a set of tactics, such as cyberattacks, misinformation campaigns, and economic pressures, aimed at subtly undermining or destabilizing an adversary. China has demonstrated notable proficiency in employing this strategy, particularly in its interactions with India and neighboring countries.
 - Expansionist moves extend from the South

China and East China Seas to the land frontier with India.

- **Increasing Militarization:**

- More than 50 warships from extra-regional forces deployed in the Indian Ocean Region (IOR) for various missions, including anti-piracy patrols off the Gulf of Aden.

Way Forward:

- **International Partnerships:**

- Strengthen ties with like-minded nations to enhance security in the region.
- Engage in partnerships and alliances with countries that share similar concerns.

- **Maritime Security Initiatives:**

- Develop and participate in initiatives focused on enhancing maritime security.

The Indo-Pacific

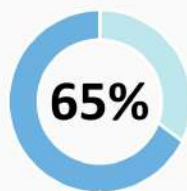
The Indo-Pacific comprises 40 countries and economies: Australia, Bangladesh, Bhutan, Brunei, Cambodia, People's Republic of Korea (DPRK), India, Indonesia, Japan, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, the Pacific Island Countries (14), Pakistan, People's Republic of China (PRC), the Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Taiwan, Thailand, Timor Leste, and Vietnam.



of world GDP
by 2040



of global greenhouse
gas emissions



of world's
population



of world's
Indigenous people



of the world's
poor

1 in 5 Canadians have family ties to the region

PRC, Japan, India, ROK, Australia
5 of the region's largest economies

US\$29.3T combined GDP of top 5 compared to US\$17.2T for whole EU-27



- Involve joint patrols, information sharing, and coordinated efforts to combat piracy and other maritime threats.

- **Economic and Infrastructure Development:**

- Invest in infrastructure and economic development in the region.
- Economic stability contributes to overall security, reducing tensions between nations.

- **Soft Power Diplomacy:**

- Utilize soft power elements, including cultural exchanges, educational programs, and economic cooperation.
- Build positive relationships and understanding among nations through diplomacy beyond military strategies.

VOICE OF GLOBAL SOUTH SUMMIT (VOGS)



Why in the news?

The follow-up edition of the Voice of the Global South Summit, hosted by India was held recently. It expands upon the inaugural summit conducted in January, which convened delegates from 125 nations in the Global South.

About Voice of Global South Summit (VoGS)

The Voice of Global South (VoGS) Summit, an Indian initiative, serves as a unified platform for countries in Asia, Africa, and South America to articulate their viewpoints and priorities on pressing global issues. It seeks to find collaborative solutions to challenges faced by developing nations through constructive dialogue.

Foundation and Objectives:

The genesis of this initiative lies in recent global events, including the COVID-19 pandemic, escalating debt, the Ukraine conflict, and issues related to food and energy security. These challenges often do not receive adequate attention on existing global platforms. The summit is inspired by India's

Prime Minister vision of inclusive development, encapsulated in the philosophy of 'Sabka Saath Sabka Vikas Sabka Vishwas aur Sabka Prayas.'

Global South:

The term 'Global South' refers to countries in Asia, Africa, and South America, distinguishing them based on economic development and historical factors. India, along with major nations like Brazil, China, Indonesia, and Mexico, aims to represent the underrepresented Global South in international forums.

Features of Global South:

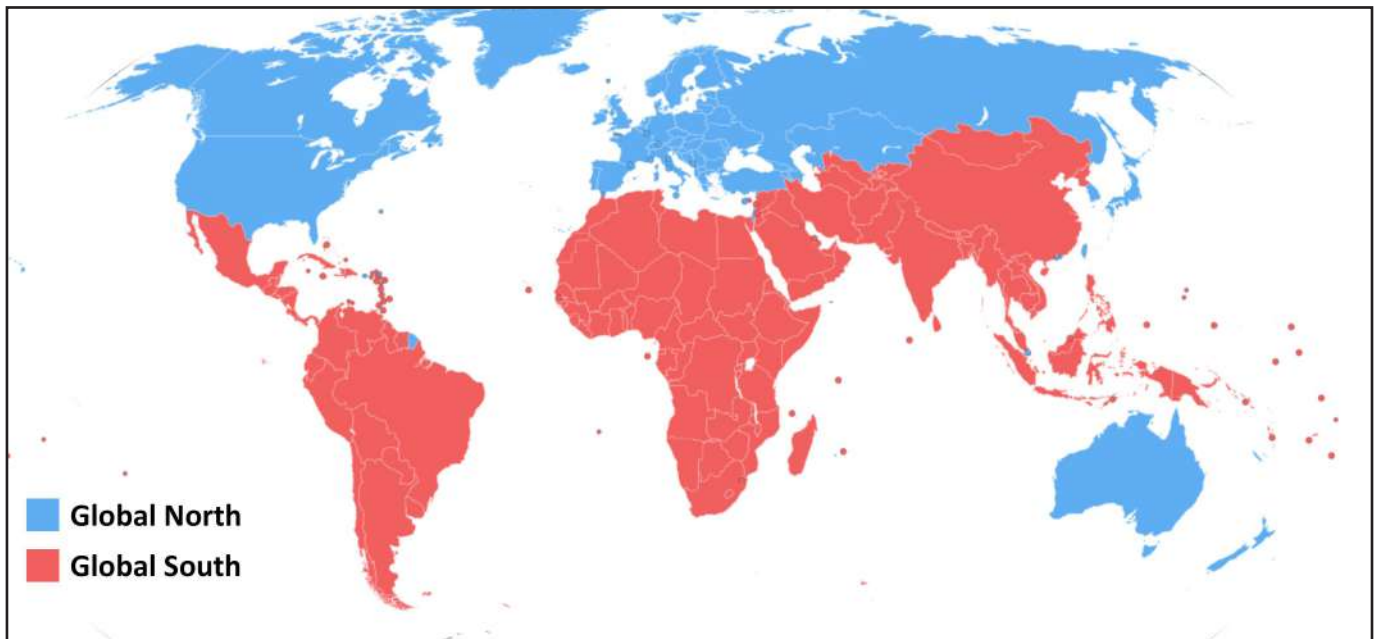
- Primarily lower-income countries, often with colonial histories.
- Not strictly confined to the Southern Hemisphere, with some nations located in the Northern Hemisphere.
- Employed as a neutral substitute for the term "Third World."
- Recognizes shared history and challenges the dominance of the Global North in international affairs.

Indian Context:

- India advocates for the reform of multilateral institutions such as the UNSC, UN, and IMF.
- Aims to unite Global South nations for collective representation and collaboration.
- Seeks cooperation with other Global South countries while challenging global capitalist structures.

Significance of Global South:

- Aims to address shared concerns like energy security and sustainable development.
- Creates potential for technical and idea exchanges among Global South nations.
- Provides a platform for highlighting concerns often overlooked on the global stage.



Below is a table differentiating the First, Second, and Third World classifications:

Criteria	First World	Second World	Third World
Economic Development	Developed and Industrialized Nations	Industrializing or Socialist Nations	Developing and Less-Developed Nations
Geopolitical Influence	High	Moderate to High	Low
Historical Context	Capitalist Democracies (during Cold War)	Socialist Bloc (during Cold War)	Non-Aligned or Unaligned Nations (Cold War)
Examples	USA, Canada, Western European Countries	Former USSR, China, Eastern Europe	India, Brazil, African and Asian Countries
Development Indicators	High GDP, HDI, Industrialization, Advanced Technology	Moderate GDP, Industrialization Progress	Lower GDP, Limited Industrialization

Challenges for Consolidation:

- Ongoing debates over climate reparations and the exclusion of India and China.
- Ramifications of the Russia-Ukraine Conflict on the Least Developed Nations.
- The Growing Ascendancy of China in the Global South through Programs Such as the Belt and Road Initiative.

Way Forward:

- India should actively engage in regional politics within the Global South.
- Recognition of differentiation within the Global South in terms of wealth, needs, and capabilities.

It's essential to note that the terms "First," "Second," and "Third World" have evolved and are now

considered outdated. The classifications were originally based on Cold War-era geopolitical alliances and economic structures, and they don't accurately represent the current global geopolitical landscape. The preferred terminology today is "Developed," "Developing," and "Least Developed" nations or Global South and North nations.

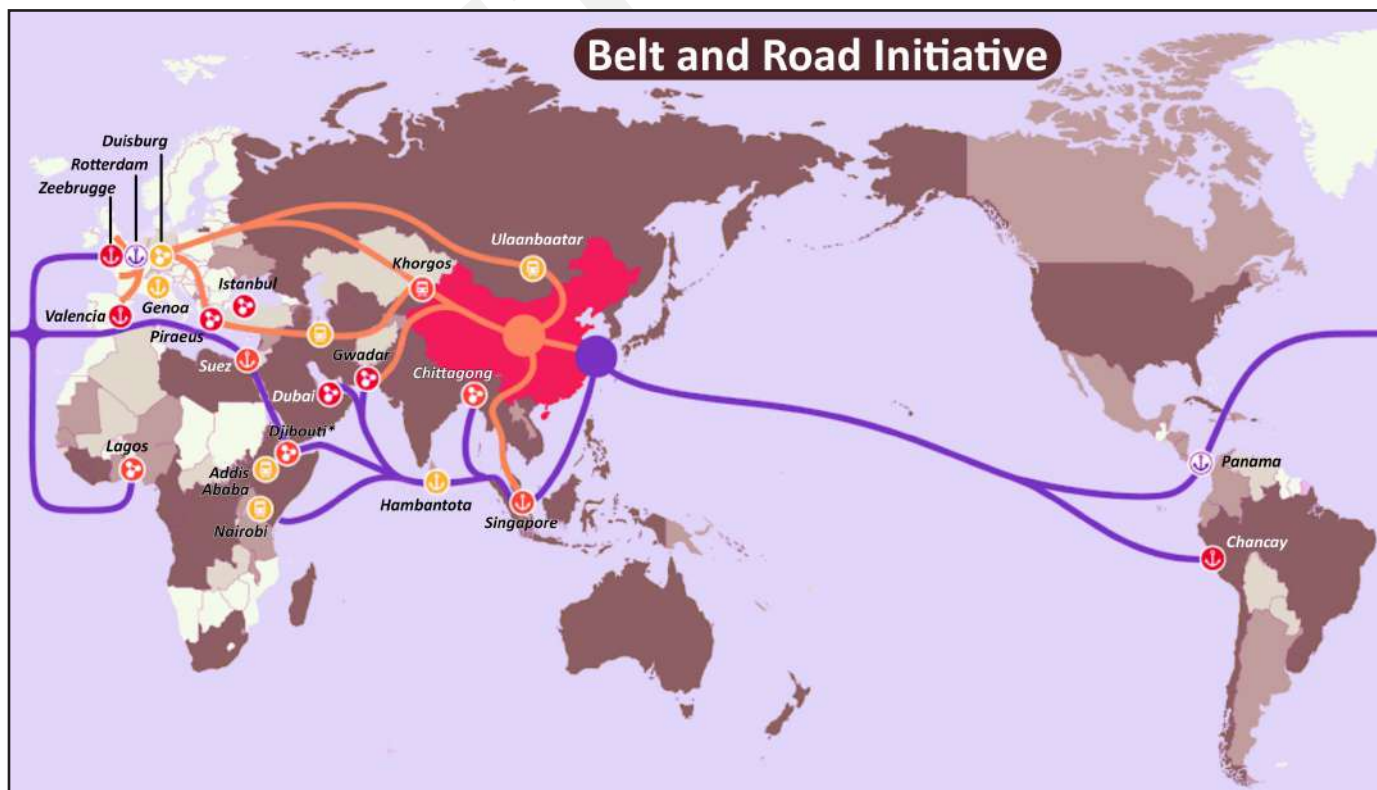
BELT AND ROAD INITIATIVE (BRI)

Why in the news?

The year 2023 commemorates ten years since President Xi Jinping introduced the ambitious infrastructure funding project known as the Belt and Road Initiative (BRI) in China.

About Belt and Road Initiative (BRI)

- In 2013, President Xi Jinping launched the **Silk Road Economic 'Belt'** focusing on revitalising trade and infrastructure connections between Asia and Europe, particularly through Central Asia.
- Expanding on this, he later introduced the **'Road,'** which aimed to establish sea trade infrastructure connecting China to Southeast Asia, Europe, and Africa, prioritising the development of ports, bridges, industry corridors, and critical infrastructure throughout South-east Asia and the Indian Ocean.
- While **initially termed the One Belt One Road Initiative (OBOR)**, these projects have been commonly referred to as the Belt and Road Initiative (BRI) since 2015.
- This ambitious undertaking involves the creation of an **extensive network encompassing railways, energy pipelines, highways**, and more efficient border crossings.
- As of now, **over sixty countries**, accounting for a significant portion of the world's population, have either signed on to BRI projects or expressed their interest in doing so.
- Behind the BRI lie both geopolitical and economic motives for China. The initiative aligns with China's vision of a more assertive global presence.
- Additionally, factors like slowing economic



growth and challenging trade relations with the United States have compelled Chinese leadership to seek new markets for its products.

Principles of BRI

- The BRI was underpinned by five core principles initially:
 - Policy Coordination
 - Infrastructure Connectivity
 - Trade
 - Financial Integration
 - People-to-People Connections
- Later, a sixth principle of '**Industrial cooperation**' was added.

India's Position on the BRI

India's stance on the Belt and Road Initiative (BRI) has remained consistent since 2013.

- **Sovereignty Concerns:** India's main reservations stem from sovereignty issues, particularly regarding the China-Pakistan Economic Corridor (CPEC) passing through Pakistan-occupied Kashmir (PoK).
- **Geopolitical Implications:** India is concerned about the geopolitical implications of the BRI's expansion in the Indian Ocean region, as China's presence grows, impacting trade, energy transport, and investments in neighbouring countries.
- **Broader Impact on Relations:** Negative developments in India-China relations, such as the trade deficit and border tensions, further influence India's view of the BRI.
- **Non-Endorsement and AIIB Participation:** India refrains from endorsing the BRI and has not participated in BRI Forums. Instead, it has actively engaged with the Asian Infrastructure Investment Bank (AIIB) since its inception, emerging as a significant market for the agency.

China-Pakistan Economic Corridor (CPEC)

The China-Pakistan Economic Corridor (CPEC) has been a central element of the Belt and Road Initiative (BRI) from its inception. Pakistan faces economic and political difficulties, but it remains committed to the CPEC, despite concerns about potential long-term economic consequences.

- **Cornerstone of China-Pakistan Partnership:** The \$60 billion CPEC is a crucial part of the "all-weather" strategic partnership between China and Pakistan, bolstered by a bilateral free trade agreement.
- **Project Focus:** The CPEC emphasises energy projects to address Pakistan's energy needs, alongside extensive infrastructure development and the strategic Gwadar port.
 - **Strategic Objectives:** The primary objectives of CPEC are to provide China with an alternate and shorter route to the Middle East and Africa, bypassing the Malacca Strait. Simultaneously, it seeks to promote Pakistan's economic development and bolster its energy security.
- **Operational Achievements:** Several CPEC projects are now operational, including the Sukkur-Multan section of the Peshawar-Karachi Motorway, the Havelian-Thakot section of the Karakoram Highway Phase II, the Lahore Orange Line Metro, and various operational energy projects such as coal-fired plants.
- **Regional Expansion:** Some CPEC projects may extend into Afghanistan, potentially broadening the corridor's regional impact.

The Belt and Road Initiative (BRI) serves as a platform through which China leverages its infrastructure, knowledge, and financial prowess to cultivate enhanced political connections with countries reliant on capital imports. In light of these evolving dynamics, it is imperative for India to carefully assess the geopolitical interests it holds in the Indian Ocean region. This critical examination is vital, as

the Indian Ocean region presents potential security challenges that India must proactively address and navigate.

ADMM PLUS

Why in the news?

In conjunction with the ADMM Plus meetings, the Indian Defence Minister is set to engage in bilateral discussions with the defence ministers of participating nations. The focus will be on addressing defence cooperation and fostering mutually beneficial partnerships. This engagement holds significance in the context of India's evolving relationship with ASEAN and its commitment to regional security.

India-ASEAN Relations Timeline:

India's formal involvement with ASEAN began in 1992 as a 'Sectoral Dialogue Partner,' involving Secretary-level interactions. By 1995, India had attained the status of a 'Dialogue Partner,' marking the progression of its engagement with ASEAN.

About ADMM Plus:

The ASEAN Security Community (ASC) Plan of Action, endorsed during the 10th ASEAN Summit, laid the foundation for the establishment of the annual ASEAN Defence Ministers' Meeting (ADMM). Inaugurated in Kuala Lumpur in 2006, the ADMM became a pre-eminent defence consultative and cooperative mechanism within ASEAN.

ADMM-Plus and Its Objectives:

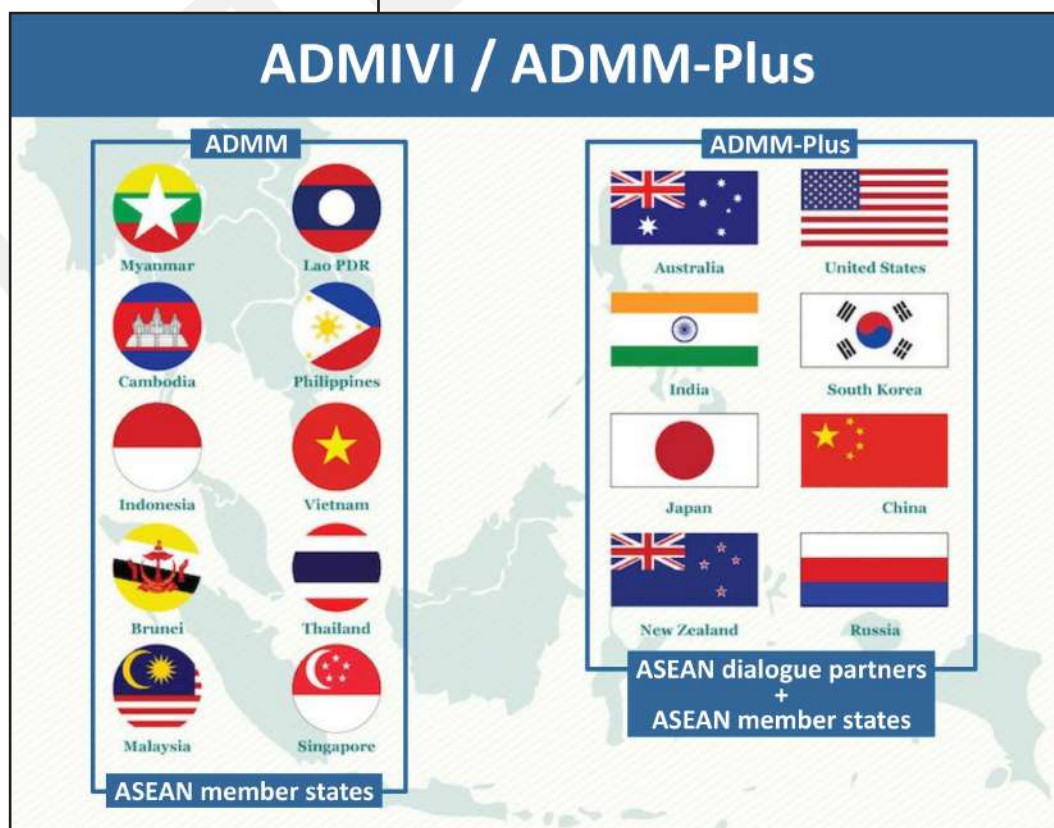
- The ADMM-Plus

serves as a pivotal platform for ASEAN and its eight Dialogue Partners, including India. The collaborative effort aims to strengthen security and defence cooperation, contributing to peace, stability, and development in the region.

- Key objectives include fostering the development of capabilities, promoting mutual trust, collaborating in defence and security initiatives, and contributing to the realization of an ASEAN Security Community.
- Since 2017, the ADMM-Plus has been holding annual meetings, providing a forum for intensified dialogue and cooperation among ASEAN and the Plus Countries. This is particularly crucial given the progressively challenging regional security landscape.

Achievements and Focus Areas:

- ADMM Plus concentrates on seven key areas of practical collaboration i.e. maritime security, counter-terrorism, humanitarian assistance and disaster management, peacekeeping operations, military medicine, humanitarian mine action, and cyber security.



- Experts' Working Groups (EWGs) facilitate cooperation in these domains, operating on a three-year cycle and co-chaired by ASEAN Member States and Plus Countries.

Membership Principles:

Principles for Membership outline the criteria for participating in the ADMM-Plus process. The Plus country must hold the status of a full-fledged Dialogue Partner of ASEAN, have substantial interactions with ASEAN's defence establishment, and demonstrate the ability to collaborate on capacity-building initiatives in defence and security within the region.

India's active participation in the ADMM Plus reflects its commitment to regional security and the fostering of collaborative efforts among ASEAN member-states and Dialogue Partners. The annual meetings and achievements in key focus areas underscore the growing importance of such platforms in addressing contemporary security challenges in the region.

ASEAN Overview:

Formation and Purpose:

The Association of Southeast Asian Nations (ASEAN) is a regional organization established to promote political and social stability in the Asia-Pacific region, addressing tensions among post-colonial states.

Motto:

The motto of ASEAN is "One Vision, One Identity, One Community." ASEAN Day is observed on 8th August annually.

ASEAN Secretariat:

The ASEAN Secretariat is located in Jakarta, Indonesia.

Member Nations:

Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, Cambodia

PRELIMS QUESTIONS

Q1. With reference to Shanghai Cooperation Organization, consider the following statements:

1. SCO Heads of Government Council is the highest authority within the SCO.
2. The SCO Foreign Ministers Council focuses on the day-to-day operations of the SCO.
3. The SCO Secretariat is located in Beijing, China.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q2. Consider the following:

1. China
2. Kazakhstan
3. Russia
4. Tajikistan
5. Uzbekistan
6. India

How many of them were founding members of the Shanghai Cooperation Organization?

- (a) Only two
- (b) Only three
- (c) Only four
- (d) Only five

Q3. With reference to United Nations Interim Force in Lebanon (UNIFIL), consider the following statements:

1. The UNIFIL has been serving as a buffer between Lebanon and Syria along the Blue Line.

2. The Blue Line is also a demarcation line between Lebanon and the Golan Heights.

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

Q4. Consider the following:

1. UN peacekeeping missions provide security, political support, and peacebuilding assistance during the transition from conflict to peace in nations.
2. UN Peacekeeping operations do not require the consent of all involved parties to operate.
3. The UN Security Council typically authorises UN peacekeeping operations.

How many of the abovementioned statements are correct ?

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

Q5. Consider the following statements regarding Qatar's location?

1. Qatar is situated on the eastern coast of the Arabian Peninsula.
2. Qatar is a landlocked country in the Middle East.

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

Q6. Consider the following statements:

1. Indians constitute the largest expatriate community in Qatar.
2. India is a part of the Doha International Maritime Defence Exhibition and Conference (DIMDEX).

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

Q7. Which of the following Indian states shares the longest border with Bhutan?

1. Assam
2. Arunachal Pradesh
3. Sikkim
4. Tripura

Q8. Which of the following statements about India-Bhutan diplomatic relations is correct?

1. Diplomatic relations were established before Indian Independence.
2. Relations formalized in 1968 with the appointment of a resident representative in Thimphu.

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

Q9. With reference to 2+2 Ministerial Dialogue, consider the following statements:

1. The 2+2 meetings involve the Ministers responsible for Foreign Affairs and Home.
2. It is a part of the Quadrilateral Security Dialogue.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q10. Consider the following:

1. United States
2. Japan
3. Australia
4. United Kingdom

How many nations mentioned above have a 2+2 ministerial dialogue with India?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All Four

Q11. With reference to Palestine, consider the following statements:

1. India was the first non-Arab nation to acknowledge the Palestine Liberation Organization (PLO) as the exclusive representative of the Palestinian people.
2. Mahatma Gandhi supported the proposal for a Jewish homeland in Palestine.
3. India supports establishing a sovereign state of Palestine.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) None

Q12. The term “two-state solution” is sometimes mentioned in the news in the context of the affairs of (PYQ Civil Services Exam 2018)

- (a) China
- (b) Israel
- (c) Iraq
- (d) Yemen

Q13. With reference to the Indo-Pacific Region, consider the following statements:

1. The Indo-Pacific region encompasses four continents—Asia, Africa, Australia, and America.
2. The Indo-Pacific region constitutes 60% of the world’s population.
3. The Indo-Pacific region contributes to two-thirds of the global economic output.

Which of the statements given above is/are correct?

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

Q14. Which of the following terms refers to a strategic approach in which a nation seeks to gain advantages over another without engaging in overt warfare, utilizing tactics such as cyberattacks, misinformation campaigns, and economic pressures to subtly undermine or destabilize an adversary?

- (a) Guerrilla Warfare
- (b) ‘Grey Zone’ Tactics
- (c) Asymmetric Warfare
- (d) Conventional Warfare

Q15. Regarding the “Global South” recently seen in the news, consider the following statements:

1. Primarily lower-income countries, often with colonial histories.
2. These countries are strictly confined to the Southern Hemisphere.
3. ‘Global South’ is Used as an alternative to “Third World.”

How many of the above statements are correct?

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

Q16. Regarding the “Voice of Global South Summit (VoGS)” recently seen in the news, consider the following statements:

- 1. It is a joint initiative of India, China and Brazil.
- 2. This initiative is primarily aimed at reforming the IMF.

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

Q17. With reference Belt and Road Initiative (BRI), consider the following statements:

- 1. ‘Belt’ has a focus on revitalising trade and infrastructure connections between China to South-east Asia, Europe, and Africa.
- 2. The ‘Road’ component, reminiscent of the Ancient Silk Road, will connect between Asia and Europe, particularly through Central Asia.

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

Q18. Consider the following:

- 1. The China-Pakistan Economic Corridor (CPEC) is a bilateral venture between Pakistan and China, aiming to enhance infrastructure and connectivity within Pakistan.

- 2. CPEC is an integral component of the Belt and Road Initiative (BRI).
- 3. CPEC’s main goals include offering China a more direct route to the Middle East and Africa, bypassing the Gulf of Aden.

How many of the abovementioned statements are correct ?

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

Q19. With reference to the ASEAN Defence Ministers’ Meeting (ADMM) Plus, consider the following statements:

- 1. The inaugural ADMM took place in Kuala Lumpur in 2006.
- 2. The ASEAN Defence Ministers’ Meeting (ADMM) Plus involves ASEAN member-states and eight dialogue partners, including India, China, and the United States.

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

Q20. With reference to the Association of South-east Asian Nations (ASEAN), consider the following statements:

- 1. ASEAN consists of ten member nations, including Bangladesh
- 2. The ASEAN Secretariat is headquartered in Bangkok, Thailand.

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

ANSWERS

S. No.	Answer
1.	B
2.	C
3.	D
4.	B
5.	D
6.	C
7.	A
8.	B
9.	D
10.	C
11.	C
12.	B
13.	A
14.	B
15.	B
16.	D
17.	D
18.	B
19.	C
20.	D

MAINS QUESTION

Q1. Discuss the strategic and economic significance of India's participation in the Shanghai Cooperation Organization (SCO).

Q2. Discuss the role and significance of the United Nations Interim Force in Lebanon (UNIFIL) and India's substantial contribution to UN peacekeeping efforts.

Q3. How has the India-Qatar relationship evolved, and what are the key factors influencing this bilateral partnership in the contemporary geopolitical landscape?

Q4. Discuss the strategic importance of India-Bhutan relations and their impact on regional stability. Analyze the recent developments and challenges in these relations, particularly in the context of China.

Q5. 2+2 dialogues are crucial for navigating complex geopolitical challenges and fostering strategic partnerships. Discuss.


Q6. Examine India's evolving stance on the Israel-Palestine conflict, considering its recent support for a UN resolution denouncing Israeli settlement activities.

Q7. Discuss the geopolitical significance and challenges associated with the Indo-Pacific region in the context of evolving global dynamics.

Q8. Analyze the challenges faced by developing countries in the current global scenario and assess how platforms like Voice of Global South Summit VoGS can contribute to addressing these challenges.

Q9. Discuss the Belt and Road Initiative (BRI) and its evolution over the past decade. Evaluate India's stance on the BRI.

Q10. Discuss the significance of the ASEAN Defence Ministers' Meeting Plus (ADMM Plus) in fostering regional security cooperation.



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INFRASTRUCTURE INVESTMENT TRUSTS (INVITS)

Why in the news?

As per SEBI data, the period from April to September in the fiscal year 2023-24 saw a total collection of Rs 18,658 crore through these emerging investment instruments. Out of this amount, Rs 12,753 crore was raised via InvITs, while the remaining Rs 5,905 crore was collected through REITs.

Introduction

- Infrastructure Investment Trusts (InvITs) are investment vehicles designed to facilitate investments in infrastructure assets, making them accessible to both private and retail investors. These trusts operate in a manner similar to

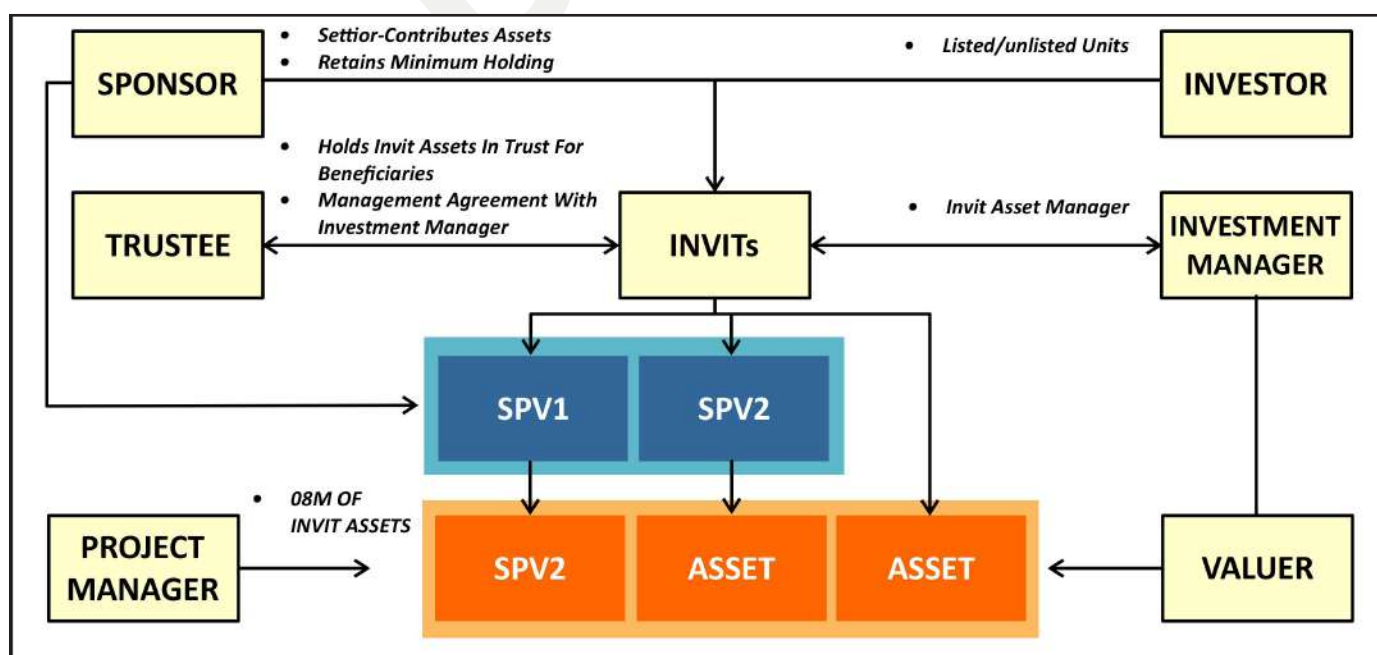
mutual funds and focus on long-term infrastructure projects, including roads, gas pipelines, transmission lines, and renewable assets, among others. They are subject to regulation by SEBI (Securities and Exchange Board of India).

Design and Features of InvITs

- InvITs are structured as tiered entities, with a sponsor establishing the InvIT. This trust, in turn, invests in eligible infrastructure projects, either directly or through special purpose vehicles (SPVs).

Investor Eligibility

- InvITs have a minimum subscription limit of 1 lakh, allowing not only institutional investors like banks, insurance companies, pension funds, and sovereign wealth funds to participate but also retail investors. Investors in InvITs receive units, making them unit holders.



Returns on Investment

- Investments made by InvITs are divided into two components: loan and capital. Consequently, unit holders receive returns in the form of both dividends and interest, both of which are subject to taxation. If unit holders make a profit from selling their units, capital gains tax is applicable.

Reduced Risk

- SEBI regulations mandate that InvITs must allocate a minimum of 80% of their assets to completed and revenue-generating projects. This significantly reduces the risks typically associated with infrastructure investments, such as delays due to regulatory approvals or poor project management.

Legal Recognition

- InvITs, along with Real Estate Investment Trusts (REITs), are recognized as borrowers under the Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI) Act. This legal status empowers investors, particularly banks, to take action against InvIT trustees in the event of defaults.

FARMERS PRODUCER ORGANISATION (FPO)



Why in the news?

Over the past few years, Farmer Producer Organizations have addressed the issue of fragmented land holdings, which hinder the realization of economies of scale and deter agricultural investments.

About FPO:

A Farmers Producer Organisation (FPO) is a legal entity established by primary producers, including farmers, milk producers, fishermen, weavers, rural artisans, and craftsmen, primarily consisting of farmers as members. FPOs can be registered as Co-operatives (under the Cooperative Societies Act of the respective State), Farmer Producer Companies

(under the Companies Act, 2013), or Societies (under the Society Registration Act, 1860).



Fpos Offer Several Benefits to Small and Marginal Farmers, Such as:

- Facilitating land pooling to address issues related to fragmented landholdings.
- Leveraging economies of scale for the collective purchase of agricultural inputs and the sale of produce.
- Enabling the sharing of services, including knowledge input, production supervision, storage, and transportation, which helps reduce transaction costs.
- Involving farmers in value addition activities such as input supply, credit, processing, marketing, and distribution.
- Serving as an interface between farmers and the global market, allowing them to export agricultural commodities.
- Providing access to capital for farmers and managing risk through diversification.
- Promoting economic democracy at the grass-roots level.

Initiatives for the Promotion of FPOs:

- **SFAC (Small Farmers Agri-business Consortium):** SFAC serves as the nodal agency at the national level for the creation of FPOs. They operate a Credit Guarantee Fund to help financial institutions mitigate credit risks when lending to Farmer Producer Companies (FPCs) without requiring collateral. Additionally, SFAC provides matching equity grants of up to Rs. 10 lakh to double the share capital of FPCs, thereby strengthening their financial position.
- **NABARD (National Bank for Agriculture and Rural Development):** NABARD offers financial support to FPOs through two dedicated funds: "Producers Organization Development Fund (PODF)" and "PRODUCE Fund (Producers' Organization Development and Upliftment Corpus)." These funds are created with the aim of encouraging the formation of new FPOs and helping them fulfill their initial financial needs.

Suggestions for Improvement:

- **Analysis of Limited Success:** Evaluate the reasons behind the limited success of existing FPOs and take outcome-oriented actions to address challenges.
- **Collaborative Farming:** Form FPOs based on adjoining land holdings and common produce to achieve higher economies of scale and engage in value addition activities.
- **Enhanced Credit Support:** Provide increased credit support, including subsidies, collateral-free loans, and low-interest credit facilities to counter reluctance from banks.
- **Income Tax Exemption:** Grant FPOs income tax exemption to incentivize their formation and growth.
- **Hand Holding and Training:** Offer regular training and guidance to FPOs through government agencies, agricultural extension services, and NGOs.
- **Professional Management:** Allow private sector investments in FPOs by amending the Companies Act, bringing expertise and efficiency to

FPO operations.

- **Market Linkages:** Support FPOs with direct procurement by the government, freight cost subsidies for wholesale buyers, and connections to online marketing platforms.
- **Village Producer Organizations (VPOs):** Develop VPOs as joint ventures of multiple FPOs, focusing on specific agricultural products and post-production activities for comprehensive value chains.

PM KISAN SCHEME



Why in the news?

Recently, the Prime Minister disbursed the 15th installment of the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme.

Introduction:

Launched on 24th February 2019, the Pradhan Mantri Kisan Samman Nidhi (PM Kisan) initiative is aimed at providing crucial financial support to landholding farmers in India.

Financial Benefits:

- Farmers receive a financial benefit of Rs 6000 per year.
- The amount is disbursed in three equal installments every four months.
- Direct Benefit Transfer (DBT) mode is employed for seamless fund transfer directly into the bank accounts of farmers' families.

Scope of the Scheme:

Initially designed for Small and Marginal Farmers (SMFs) with landholdings up to 2 hectares, the scheme underwent an expansion to include all landholding farmers.

Funding and Implementation:

- PM Kisan is a Central Sector Scheme, receiving

100% funding from the Government of India.

- The Ministry of Agriculture and Farmers Welfare is responsible for the effective implementation of the scheme.

Objective:

The primary objective of PM Kisan is to address the financial needs of farmers, ensuring direct financial support to enhance their agricultural activities and overall livelihood.

Implementation Process:

- The scheme utilizes a Direct Benefit Transfer (DBT) mode for the efficient and transparent transfer of funds.
- Financial assistance is disbursed in three equal installments, benefiting farmers at regular intervals.

Exclusions in PM Kisan Scheme:

- **Income Tax-Paying Farmers:** Those liable to pay income tax are excluded.
- **Government Employees:** Individuals employed in government services are ineligible.
- **Professionals like Doctors:** Non-agricultural professionals, including doctors, are excluded.

Need for PM KISAN:

- **Access to Institutional Credit:** Over 60% of marginal farmers rely on informal credit sources due to the lack of access to institutional credit.
- **Effectiveness Over Debt Waiver:** Unlike debt waiver schemes, input support schemes maintain credit culture.
- **Crop Neutrality:** PM KISAN is crop-neutral, unlike Minimum Support Price (MSP) mechanisms that favor certain crops.
- **WTO Subsidy Limit:** Income support schemes like PM KISAN do not breach WTO subsidy limits, avoiding trade-related complications.
- **Better Price Realization:** Aims to improve farmers' income by reducing dependence on local

traders and commission agents.

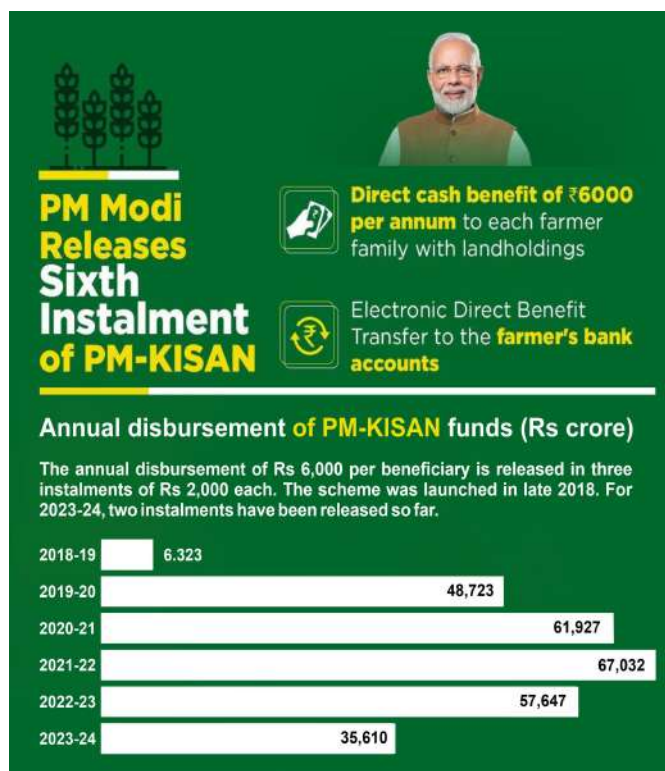
Limitations and Challenges:

- **Insufficient Support:** The financial assistance provided may not cover the actual input costs incurred by farmers.
- **Beneficiary Identification:** Challenges in identifying beneficiaries due to inadequate digitalization of land records.
- **Exclusion of Tenants and Sharecroppers:** The scheme does not cover tenants and sharecroppers, limiting its impact.
- **Inefficient Disbursement:** Banks sometimes adjust deposits against past liabilities, impacting the effective distribution of funds.
- **Misuse of Funds:** Instances of farmers using the credited money for unintended purposes, such as alcohol consumption.

Way Forward:

- **Digitalization of Land Records:** Improve beneficiary identification and avoid exclusion errors.
- **Implement Model Tenancy Act:** Formalize land tenancy to include tenants in the scheme.
- **In-Kind Support:** Consider providing input support in the form of resources rather than cash.
- **Infrastructure Development:** Enhance agricultural infrastructure, implement marketing reforms, and provide comprehensive agricultural insurance.
- **Improve Input Use Efficiency:** Incorporate technologies like micro-irrigation and neem coating of urea to reduce input costs.

In conclusion, while PM KISAN addresses certain challenges in the agricultural sector, a holistic approach involving technological, infrastructural, and policy measures is essential for sustainable and comprehensive agricultural development.



BOND YIELD

Why in the news?

The yield on 10-year U.S. government bonds, which serves as a global benchmark for asset prices, has climbed to 5.02 percent. This marks its highest level since July 2007.

About Bond Yield:

- Bonds are financial instruments issued by governments and corporations to raise funds. The initial value at which a bond is issued is its face value, while its value in the secondary market is referred to as the market value.
- Bond Yield:** Bond yield represents the return that an investor receives on their investment in a specific bond. The yield is influenced by the bond's current market value.
- When the market value of a bond rises above its face value (the initial price at issuance), the rate of return for investors in the secondary market decreases. This situation is commonly referred

to as a "softening of bond yields."

- Conversely, if the market value of a bond falls below its face value, the rate of return for investors in the secondary market increases. This is often described as a "hardening of bond yields."

Factors Affecting Bond Demand and Market Price:

Decreases Demand	Increases Demand
Market Price of the Bond Decreases	Market Price of the Bond Increases
Bond Yield Increases (Yield Hardening)	Bond Yield Decreases (Yield Softening)
Reasons: Increased Inflation, Sale of G-secs by the central bank under open market operations, Increased borrowings by the government (Increased fiscal deficit)	Reasons: Deflationary trends in the economy, Purchase of G-secs by the Central bank under open market operations, Reduced borrowings by the government
Loss to the Bond Holder	No Loss to the Bond Holder

Impact of Bond Yield Hardening:

- Loss to Banks:** Commercial banks in India, which hold a significant amount of government securities (g-secs) for statutory liquidity ratio (SLR) requirements and liquidity adjustment facility (LAF) purposes, incur losses when bond yields rise. This is due to the inverse relationship between bond prices and yields, forcing banks to book these losses.
- Loss to Mutual Funds:** Mutual funds, which also hold substantial amounts of g-secs, experience similar losses when bond yields increase.
- Increased Cost of Borrowings:** A higher yield on G-secs means that the government must offer higher interest rates on new borrowings. Corporates may also need to raise interest rates on their bonds in response to rising bond yields in the market. Indian banks, following long-term G-sec rates to determine lending rates, may increase their lending rates as well.

- Impact on Equity Market: Rising bond yields increase the opportunity cost of investing in equities, making equities less attractive for investors.

RCS – UDAN (UDE DESH KA AAM NAGRIK)

Why in the news?

The Government of India's Regional Connectivity Scheme (RCS) – UDAN (Ude Desh Ka Aam Nagrik), has achieved a significant milestone in the country's aviation sector by celebrating six successful years in 2023.

RCS – UDAN (Ude Desh Ka Aam Nagrik)

- The Ude Desh Ka Aam Naagrik (UDAN) was introduced as a pivotal element of India's National Civil Aviation Policy (NCAP) in 2016 by the **Ministry of Civil Aviation (MoCA)**.
- **Objective:** To establish economically sustainable and profitable flight services on regional routes, making air travel affordable for the general public, even in smaller towns.
- The scheme is designed to extend connectivity to airports in India that are either underserved or underserved.
 - Underserved airports have no more than one daily flight, while unserved airports have no flight operations.
- UDAN's evolution has seen it progress from UDAN 1.0 to UDAN 5.2, with each iteration addressing specific challenges and requirements.

UDAN Version	Key Highlights
UDAN 1.0	<ul style="list-style-type: none"> ● 5 airline companies awarded 128 flight routes to 70 airports, including 36 newly operational airports

UDAN 2.0	<ul style="list-style-type: none"> ● Introduction of 73 underserved and unserved airports, including helipad connectivity
UDAN 3.0	<ul style="list-style-type: none"> ● Inclusion of Tourism Routes in coordination with the Ministry of Tourism ● Introduction of seaplanes for connecting Water Aerodromes ● Expansion of the scheme to encompass various routes in the North-East Region
UDAN 4.0	<ul style="list-style-type: none"> ● Focus on enhancing connectivity in the North-Eastern regions, hilly states, and islands ● Incorporation of helicopter and seaplane operations
UDAN 5.1	<ul style="list-style-type: none"> ● Creation of opportunities for helicopter routes and expansion of prospects for helicopter operators ● Increased Viability Gap Funding (VGF) and reduced airfare caps
UDAN 5.2 (On-going)	<ul style="list-style-type: none"> ● Aims to improve connectivity in remote and regional areas, with a particular emphasis on smaller aircraft (less than 20 seats)

RCS-UDAN's Impact on Aviation Industry:

- **Expanded Fleet:** RCS-UDAN has diversified the aircraft fleet serving RCS routes, including Airbus, Boeing, ATR, DHC, Embraer, and Tecnam models. Indian carriers have ordered over 1,000 aircraft for the next decade, significantly expanding the nation's fleet.
- **Tourism Promotion:** RCS-UDAN not only offers last-mile connectivity but also boosts tourism. It has introduced tourism routes, especially in the Northeast, and expanded helicopter services in hilly regions, stimulating tourism, hospitality, and local economic growth.

- **Connectivity:** RCS-UDAN has connected 30 States/Union Territories with 75 operational airports, including eight in the Northeast. Several airports, like Darbhanga, Hubli, Kannur, and Mysuru, have become self-sustaining with non-RCS commercial flights, enhancing connectivity and regional development.
- **Airlines Growth:** Four new airlines have opened in the past six years, promoting a sustainable aviation business model.
- **Diverse Aircraft Demand:** The scheme's expansion has fueled demand for various aircraft types, from helicopters and seaplanes to propeller and jet planes.

Challenges Faced by the RCS-UDAN:

- **Infrastructural Constraints:** In remote areas, inadequate airport infrastructure requires significant upgrades to facilitate air travel.
- **High Operating Costs:** Operating in remote regions involves elevated costs that can affect the profitability of airline services.
- **Airfare Caps:** Airfare caps can restrict airline revenue, potentially discouraging services on specific routes.
- **Commercial Viability:** Certain routes do not exhibit the necessary demand for airlines to operate profitably, even with subsidies.
- **Route Cessation:** Several RCS routes have ceased operations, sparking concerns about the scheme's sustainability.

National Civil Aviation Policy (NCAP) 2016

The National Civil Aviation Policy (NCAP) 2016 is a comprehensive framework to develop India's civil aviation sector.

- **Vision:**
 - NCAP 2016 envisions creating an ecosystem to make air travel affordable for the masses, with a target of 30 crore domestic ticketing by 2022 and 50 crore by 2027.

- It also aims to increase international ticketing to 20 crore by 2027.

- **Mission:**

- The mission of NCAP is to ensure safe, secure, affordable, and sustainable air travel for passengers and cargo transportation, providing access to various parts of India and the world.

- **Objectives:**

- NCAP aims to establish an integrated ecosystem to drive substantial growth in the civil aviation sector, boost tourism, generate employment, and promote balanced regional development.
- It also prioritises the safety, security, and sustainability of the aviation industry through the use of technology and effective monitoring.

- **Impact:**

- The growth in aviation is expected to have a significant multiplier effect, leading to increased investments, tourism, and employment opportunities, especially for unskilled and semi-skilled workers.
- This policy marks a step toward positioning India as a global hub for civil aviation by 2022.

UDAN has enhanced air connectivity to remote regions, stimulated airline growth, and boosted tourism in India's aviation industry. However, challenges related to commercial viability and airline sustainability remain. To ensure sustained air connectivity in smaller areas, collaboration among the government, industry stakeholders, and local authorities is vital. Key focus areas should include infrastructure, subsidies, operations, and awareness.

CAYMAN ISLANDS

Why in the news?

The removal of the Cayman Islands from the Financial Action Task Force (FATF) grey list is anticipated to bring about a favorable effect for international private equity funds looking to make investments in India.

Cayman Islands: A British Overseas Territory

Location: The Cayman Islands, located within the Western Caribbean Sea, is a British Overseas Territory. This territory consists of three main islands: Grand Cayman, Cayman Brac, and Little Cayman.

They are positioned to the south of Cuba and north-west of Jamaica.

Historical Background:

- The Cayman Islands were colonized by the British during the 18th and 19th centuries.
- After 1863, these islands were administered by Jamaica.
- In 1959, the Cayman Islands became a territory within the Federation of the West Indies.
- Following the dissolution of the Federation in 1962, the Cayman Islands chose to remain a British dependency.

Language: While English is the predominant language spoken in the Cayman Islands, many inhabi-



tants also communicate in local Creole dialects.

Geography: The Cayman Islands feature a low-lying landscape with extensive coral reefs that contribute to their natural beauty.

Capital: George Town, situated on Grand Cayman Island, serves as the capital of the Cayman Islands.

Currency: The official currency of the Cayman Islands is the Cayman Island dollar. However, American currency is widely accepted throughout the islands.

Government: The government system in the Cayman Islands is based on a parliamentary democracy. The chief of state is the queen of the United Kingdom, while the head of government is the premier.

Economy:

- The Cayman Islands boast a mixed economic system.
- They are renowned as a thriving offshore financial center, attracting international businesses and corporations.
- The Cayman Islands are considered a tax haven due to their lack of corporate taxation, making them an attractive location for multinational companies to establish subsidiary entities and shield their incomes from taxation.
- Notably, the Cayman Islands do not impose taxes on residents. There are no income taxes, property taxes, capital gains taxes, payroll taxes, or withholding taxes.
- The Caymans generate revenue through tourism-related fees, work permits, financial transactions, and import duties.

The Cayman Islands' unique economic and tax structure make them an intriguing destination for both businesses and tourists.

Financial Action Task Force (FATF):

Overview: The Financial Action Task Force (FATF) is an inter-governmental body established in 1989 at the initiative of the G7 nations.

Mandate: FATF serves as a "policy-making body" focused on generating political will to encourage national legislative and regulatory reforms in various areas.

Secretariat: The OECD headquarters in Paris houses the FATF Secretariat.

Roles and Functions:

- **Money Laundering:** Initially, FATF was established to examine and develop measures to combat money laundering.
- **Terrorist Financing:** In October 2001, FATF expanded its mandate to include efforts to combat terrorist financing alongside money laundering.
- **Weapons of Mass Destruction:** In April 2012, it added efforts to counter the financing of the proliferation of weapons of mass destruction.

Composition: FATF currently consists of 37 member jurisdictions and 2 regional organizations, representing major financial centers worldwide. Additionally, the organization includes observer and associate members.

Objectives: FATF aims to:

- Set standards for and promote effective implementation of legal, regulatory, and operational measures to combat money laundering, terrorist financing, and threats to the international financial system's integrity.

Blacklist and Grey List:

- **Black List:** Countries known as Non-Cooperative Countries or Territories (NCCTs) are placed on the blacklist due to their support for terror funding and money laundering activities. The blacklist is periodically revised by FATF, with countries added or removed.
- **Grey List:** Countries considered safe havens for supporting terror funding and money laundering are placed on the FATF grey list. This inclusion serves as a warning to the country that it may eventually be moved to the blacklist.

Implications of Being in the Grey List: Countries in

the grey list may face:

- Economic sanctions from international financial institutions like IMF, World Bank, and ADB.
- Challenges in obtaining loans from international financial organizations.
- Reduction in international trade opportunities.
- Risk of international boycott.

FATF President: The FATF President is a senior official appointed by the FATF Plenary from among its members for a one-year term.

TCAS KAVACH

Why in the news?

Railway officials have said that the domestically developed Train Collision Avoidance System (TCAS) 'Kavach' was not in place on the route where the Andhra Pradesh train collision occurred.

About TCAS Kavach:

- Kavach is an advanced cab signalling and train control system with built-in anti-collision features to enhance railway safety.
- Kavach was developed by the Indian Railways Research Designs and Standards Organisation (RDSO) over ten years, starting in 2012.

Functions of Kavach:

- Acts as a guardian for the existing railway signalling system, ensuring enhanced safety.
- **Warning and Automatic Braking:**
 - Alerts the locomotive pilot in the event of failing to recognize a 'red signal.'
 - If the pilot does not slow down below 15 kilometers per hour after receiving warnings, Kavach takes control and automatically applies the brakes to bring the train to a halt.

Components of Kavach Infrastructure:

1. **Radio Frequency Identification (RFID) Technology:** Installed in the tracks, using radio waves to identify objects and convey information wirelessly.
2. **Locomotive Equipment:** Locomotive cabins have RFID readers, computers, and brake interface systems.
3. **Radio Infrastructure:** Towers and modems are established at railway stations.

Working of Kavach Infrastructure:

- The three components (RFID in tracks, locomotive equipment, and radio infrastructure) communicate with each other.
- They constantly monitor train movements and transmit signals ahead to locomotives.
- The system remains effective even in challenging conditions such as hilly terrain or poor visibility.
- Direct communication between locomotives is established, sharing information about location and track IDs when multiple trains share the same track.
- Locomotives use antennas to communicate with towers at railway stations, displaying warnings on the driver's monitor.

Unique Features of the Kavach

Cost	Kavach is cost-effective, priced at Rs 50 lakh per kilometre, significantly cheaper than the European Train Control System (ETCS), which costs about Rs 2 crore worldwide.
Compatibility with Existing Infrastructure	Kavach doesn't replace traditional lineside signalling; it serves as a cab signalling train control system with anti-collision capabilities, enhancing existing infrastructure.

Comprehensive Coverage	The Kavach program covers railway stations, signalling devices, and various train types, unlike the previous Auxiliary Warning System (ACD), which was limited to specific trains and locomotives.
Incorporation of Key Elements from Other Systems	Kavach integrates elements from established systems like the European Train Protection and Warning System and the indigenous Anti Collision Device. Plans include features from the European Train Control System Level-2.
Future Compatibility	Ongoing efforts aim to make Kavach compatible with 4G LTE technology and expand its application to global markets.
Safety Integrity Level (SIL)	Kavach adheres to the highest safety and reliability standards known as Safety Integrity Level.

Cost of Deploying Kavach:

- Deployment costs ₹50 lakhs per kilometre for Indian Railways.
- Current Kavach coverage is limited to 65 trains (1,500 kilometers), with potential for a lengthy implementation process. This amounts to only 2 percent of all trains in India.

Funding Allotment for Kavach:

- Indian Railways allocated **₹4,000 crore** under the Signalling and Telecom budget head.
- This budget may enable the implementation of Kavach on about 2,500 to 3,000 kilometres of railway tracks in the upcoming year.

NATIONAL COAL INDEX

Why in the news?

In September, the National Coal Index witnessed a 3.83-point increase, driven by a temporary surge in coal prices in the global markets.

About the National Coal Index

- The National Coal Index (NCI), introduced by the Ministry of Coal on June 4, 2020, serves as a price index reflecting changes in coal prices relative to a fixed base year FY 2017-18.
- The NCI determines Premium (per tonne) or Revenue Share (percentage basis) using a market-based mechanism and covers all raw coal transactions in the Indian market.
- This includes various grades of coking and non-coking coal in both regulated (power and fertilizer) and non-regulated sectors, covering transactions at notified prices, coal auctions, and coal imports.
- The upward movement of the NCI signals a growing demand for coal, attributed to the upcoming festive season and winter in the country.
- This trend encourages coal producers to capitalize on the rising demand by scaling up domestic coal production to meet the increasing energy requirements.

An Overview of India's Coal Sector

Coal Reserves:

- India boasts the world's fourth-largest coal reserves, estimated at approximately 319.02 billion tonnes.

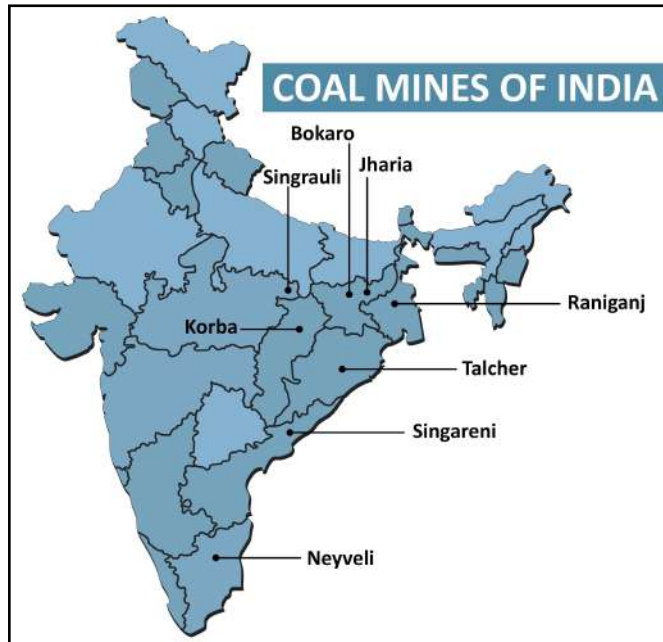
Coal Production:

- As of FY 2022, India ranks as the second-largest producer and consumer of coal globally, with a mining output of 777.31 million metric tons.

- The majority of the extracted coal is dedicated to electricity production.

Coal Consumption:

- India's energy sector heavily relies on coal as a primary fuel for thermal power plants.
- Coal currently contributes to about 70% of the total energy generation, dominating India's energy generation mix.



Types of Coal found in India:

Anthracite:

- Best quality coal with 80 to 95 per cent carbon content.
- Ignites slowly with a blue flame and possesses the highest calorific value.
- Found in small quantities in Jammu and Kashmir.

Bituminous:

- Contains 60 to 80 per cent carbon content and a low moisture level.
- Widely used with high calorific value.
- Found in Jharkhand, West Bengal, Odisha, Chhattisgarh, and Madhya Pradesh.

Lignite:

- Often brown, carries 40 to 55 per cent carbon content.
- The intermediate stage is during the alteration of woody matter into coal.
- High moisture content, resulting in smoke when burnt.
- It is found in Rajasthan, Lakhimpur (Assam), and Tamil Nadu.

Peat:

- Less than 40 per cent carbon content.
- The first stage of transformation from wood to coal.
- Low calorific value burns like wood.

Geological classification

- India's coal-bearing strata fall into two main categories: Gondwana and Tertiary coal fields.
- Gondwana coal comprises about 98 per cent of the total reserves and 99 per cent of the coal production in India.

Coal Market:

- The India Coal Market is projected to grow from 0.90 billion tons in 2023 to 1.30 billion tons by 2028, reflecting a Compound Annual Growth Rate (CAGR) of 7.57% during the forecast period (2023-2028).

Challenges:

- The recent power crisis in India has thrust coal into the spotlight. Challenges include a sudden surge in electricity demand, inadequate demand forecasting, transportation issues, global coal price hikes, delays in coal mine operationalisation, and delayed payments.

Future Outlook:

- As India takes decisive steps towards achieving its 2030 Conference of Parties (COP) 26 goals and embraces a greener path, the role of coal in the future energy mix is under reassessment.

- Initiatives are underway to address and mitigate its harmful environmental impact.

ENERGY CONSERVATION BUILDING CODE (ECBC)

Why in the news?

The International Energy Agency (IEA) has highlighted India's strong Energy Conservation Building Code (ECBC), 2017 in its World Energy Outlook 2023, emphasising India's unique position among developing nations with robust energy efficiency rules for commercial buildings, a feature less common in other developing countries.

Energy Conservation Building Code (ECBC), 2017

- The Energy Conservation Building Code (ECBC), 2017, initially introduced by the Ministry of Power's Bureau of Energy Efficiency (BEE) in 2007 and updated in 2017, plays a crucial role in **promoting energy efficiency in commercial buildings across India**.
- Currently, 23 states have adopted regulations for ECBC compliance, while larger states like Maharashtra and Gujarat are in the process of formulating their rules.
- As a national standard, the ECBC provides flexibility for individual states to tailor the code to meet their specific regional needs, requiring them to draft and notify rules as state laws for enforcement.

Objectives: The ECBC establishes minimum energy standards for commercial buildings, aiming to **achieve energy savings ranging from 25 to 50 per cent** in compliant structures.

Applicability:

- This code applies to **commercial buildings, including hospitals, hotels, schools, shopping complexes, and multiplexes** with a **connected load of 100 kW** or more, or a **contract demand of 120 kVA** or more.
- ECBC is **applicable to both new constructions**

and the retrofitting of existing buildings.

- Compliant buildings receive one of three tags in ascending order of efficiency: **ECBC, ECBC Plus, and Super ECBC**.

Significance:

- Buildings in India currently contribute to 30 per cent of total electricity consumption, a proportion expected to rise to 50 percent by 2042.
- A notable report indicates that 40 percent of the buildings anticipated in the next two decades have yet to be constructed, presenting a unique opportunity for policymakers and builders to ensure sustainability in their development.

International Energy Agency (IEA)

- The International Energy Agency (IEA) is an independent intergovernmental organization headquartered in Paris.
- Established in 1974 by members of the Organization for Economic Cooperation and Development (OECD) in response to the 1973 Arab oil embargo, the IEA has a mission to assist countries in ensuring secure and sustainable energy for all.

Mission:

- The primary mission of the IEA involves providing policy recommendations, conducting analyses, and offering data pertaining to the global energy sector.
- The agency collaborates with governments and industry stakeholders to shape a secure and sustainable energy future.

Key Publications:

- The IEA is renowned for its influential reports, including the World Energy Outlook, Oil Market Report, and World Energy Employment Report.
- Through these publications, the IEA contributes valuable insights and information crucial for navigating the complexities of the global energy landscape.

PRELIMS QUESTION

Q1. Consider the following statements:

Statement-I: The interest income generated from deposits in Infrastructure Investment Trusts (InvITs) and distributed to their investors enjoys tax exemption, while dividends are subject to taxation.

Statement-II: InvITs are accorded recognition as borrowers under the 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002,' providing them with certain legal status and privileges in financial matters.

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 is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

Q2. Regarding Infrastructure Investment Trusts (InvITs), read the following statements:

- 1. SEBI regulates InvITs.
- 2. InvITs are required to invest exclusively in infrastructure projects that are finished and producing revenue.
- 3. The returns generated from investments in InvITs are tax-exempt.

How many of the above statement/s is/are correct?

- (a) Only one
- (b) Only two
- (c) All three

(d) None

Q3. Regarding the Farmers Producer Organisation (FPO), recently seen in the news, consider the following statements:

- 1. FPOs can only be registered under the Companies Act, 2013.
- 2. FPOs are exclusively composed of farmers as members.

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

Q4. Regarding the SFAC (Small Farmers Agribusiness Consortium), consider the following statements:

- 1. SFAC is the nodal agency for the creation of FPOs
- 2. SFAC primarily focuses on promoting large-scale agribusiness enterprises.
- 3. SFAC provides grants of up to Rs. 10 lakh to individual farmers.

How many of the above statement/s is/are correct?

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

Q5. With reference to the PM Kisan Scheme, consider the following statements:

- 1. It is a Central Sector scheme Farmers receive Rs 6000 per year.
- 2. The scheme is exclusively for Small and Marginal Farmers.
- 3. Direct Benefit Transfer (DBT) mode is used for fund transfer.

Which of the statements given above is/are correct?

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

Q6. Consider the following statements about bonds and bond yields:

1. The face value of a bond is its market value.
2. Bonds are issued only by governments.
3. Bond yield is influenced by the bond's current market value.

How many of the above statement/s is/are correct?

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

Q7. Consider the following statements about bond yields:

1. "Softening of bond yields" occurs when the market value of a bond falls below its face value.
2. "Hardening of bond yields" happens when the market value of a bond rises above its face value.

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

Q8. With reference to Ude Desh Ka Aam Naagrik (UDAN), consider the following statements:

1. The UDAN scheme has been implemented by the Ministry of Civil Aviation.

2. It aims to establish economically sustainable and profitable flight services on regional routes.

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

Q9. Consider the following statements with reference to UDAN:

1. The UDAN Scheme is based on India's National Civil Aviation Policy (NCAP) 2016.
2. It also incorporates helicopter and seaplane operations to improve connectivity.
3. The scheme aims to extend connectivity to airports in India that have no more than ten daily flights.

How many of the statements are correct?

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

Q10. Consider the following statements:

1. This territory is located in the Caribbean Sea and is a British Overseas Territory.
2. The Cayman Islands are known for being a part of the European Union (EU).
3. The Cayman Islands have gained recognition for their advanced technological developments in the field of aerospace.

How many of the above statement/s is/are correct?

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

Q11. Consider the following statements about the Financial Action Task Force (FATF):

1. FATF was established primarily to combat money laundering and was formed under the guidance of the G20 nations.
2. The FATF Secretariat is situated in London.

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

Q12. Which of the statements given below correctly describe TCAS Kavach?

- (a) A Public health initiative aimed at providing affordable healthcare services and insurance coverage
- (b) Government of India program for protecting critical infrastructure from cyber threats.
- (c) A program designed to protect and preserve a country's cultural heritage, including historical sites, monuments, and artifacts.
- (d) An automatic train protection technology designed to prevent rail accidents

Q13. Consider the following statements regarding Kavach:

1. Kavach is a cutting-edge signalling and control system with built-in anti-collision features.
2. Kavach was developed by the Council of Scientific & Industrial Research (CSIR).
3. Kavach is limited to specific trains and locomotives.

How many of the abovementioned statements are correct?

- (a) Only one
- (b) Only two
- (c) All three

(d) None

Q14. With reference to National Coal Index (NCI), consider the following statements:

1. Using a market-based mechanism, the NCI determines Premium (per tonne) or Revenue Share (percentage basis).
2. The National Coal Index (NCI), introduced by the Ministry of Coal, serves as a price index reflecting changes in coal prices relative to the previous year.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q15. Consider the following:

1. Anthracite coal ignites slowly with a blue flame and possesses the highest calorific value.
2. Anthracite coal is found in large quantities in Gangetic Plains.
3. The tertiary coal comprises about 98 per cent of the total reserves and 99 per cent of the coal production in India.

How many of the abovementioned statements are correct?

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

Q16. With reference to Energy Conservation Building Code (ECBC), consider the following statements:

1. ECBC was initially introduced by the Ministry of Renewable Energy's Bureau of Energy Efficiency (BEE).
2. ECBC can be applied to both new buildings and

the renovation of old ones.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q17. Consider the following:

- 1. World Energy Outlook
- 2. World Energy Transitions Outlook
- 3. World Energy Employment Report

How many of the above mentioned reports are published by the International Energy Agency (IEA)?

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

ANSWERS

S. No.	Answers
1.	D
2.	A
3.	D
4.	A
5.	D
6.	A
7.	D
8.	C
9.	B
10.	A
11.	D
12.	D
13.	A
14.	A

15.	D
16.	B
17.	B

MAINS QUESTIONS

Q1. Discuss the role and significance of Infrastructure Investment Trusts (InvITs) in facilitating infrastructure development and attracting investment in the Indian infrastructure sector.

Q2. FPOs (Farmers Producer Organizations) have gained significant importance in India's agricultural landscape. Discuss the key roles and benefits of FPOs in promoting agricultural sustainability, enhancing farmers' income, and contributing to rural development.

Q3. Examine the significance and impact of the Pradhan Mantri Kisan Samman Nidhi (PM Kisan) Scheme on the agricultural sector and the livelihoods of farmers in India. Also, discuss any potential areas of improvement for the effective implementation of the Scheme.

Q4. Examine the role of the bond market as a vital component of the global financial system.

Q5. Examine the Regional Connectivity Scheme (RCS) – Ude Desh Ka Aam Nagrik (UDAN) in the context of India's National Civil Aviation Policy (NCAP) 2016.

Q6. Discuss the impact of black money havens on the global economy and the measures that can be taken at both national and international levels to combat the issue.

Q7. Discuss the significance of the domestically developed Train Collision Avoidance System (TCAS) 'Kavach' in enhancing railway safety.

Q8. Discuss the key components and challenges in India's coal sector, including the types of coal found, their distribution, their implications.

Q9. Discuss the role of the Energy Conservation Building Code (ECBC), 2017, in fostering energy efficiency in commercial buildings in India.

SCIENCE AND TECHNOLOGY

CALDERA

Why in the news?

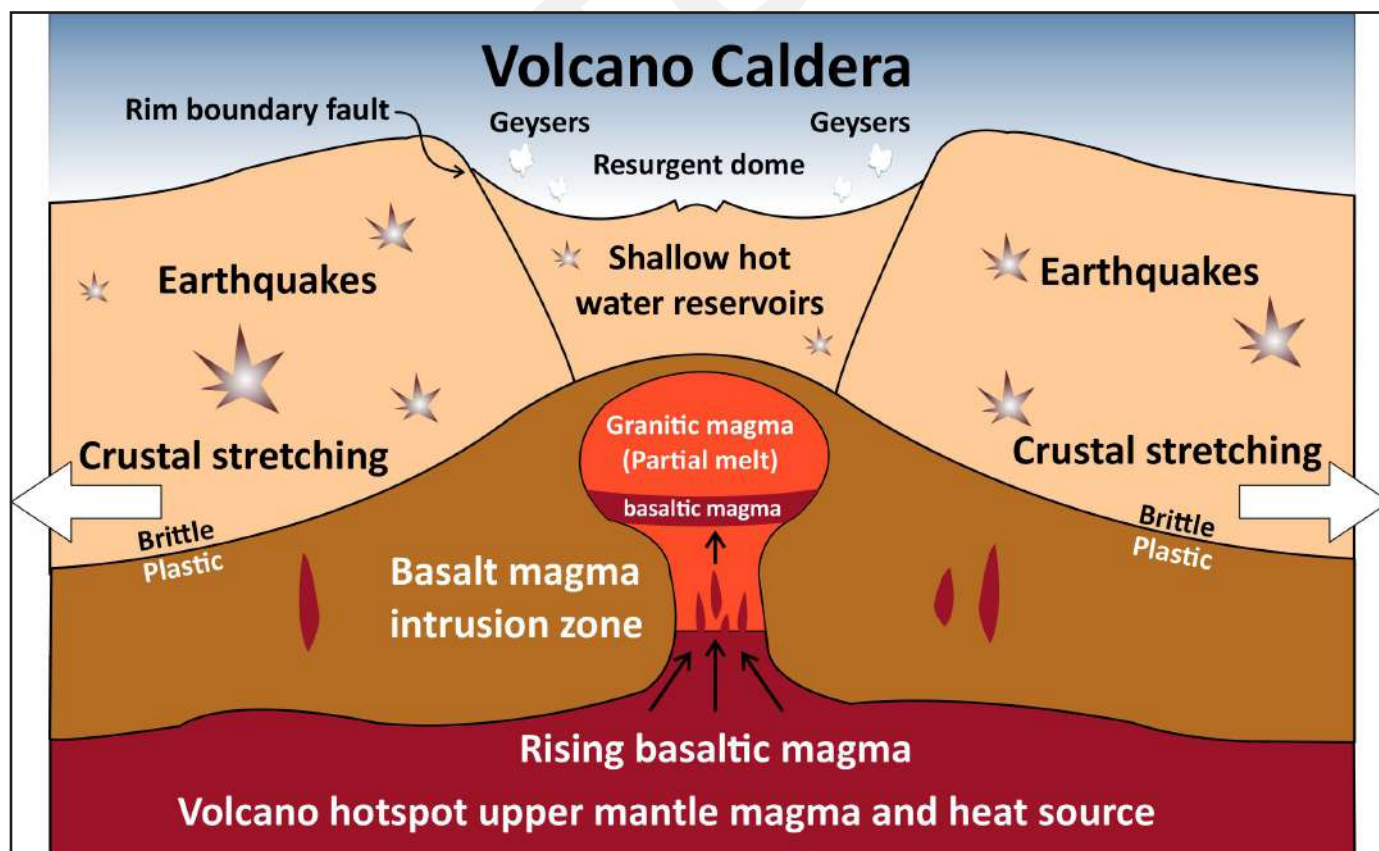
Scientists at the California Institute of Technology (Caltech) have detected over 2,000 earthquakes occurring in the Long Valley Caldera in recent years.

About Long Valley Caldera:

- The Long Valley Caldera is a dormant supervolcano situated in the Eastern Sierra Nevada Mountains of California, USA. It was formed approximately 760,000 years ago by a super-eruption that expelled about 140 cubic miles of magma. This eruption blanketed much of east-central California with hot ash, which was even carried as far as what is now Nebraska.

Since 1978, the caldera has been experiencing regular earthquake swarms, leading to concerns that it may be at risk of erupting again. Despite its dormant status, the ongoing seismic activity serves as a reminder of the caldera's volatile past and potential future.

- Caldera definition:** A caldera is a large, bowl-shaped depression formed by the collapse of a volcano after a massive eruption. It is the most



destructive type of volcanic eruption. Calderas may have uneven shapes due to different rates of collapse.

- **Caldera types:** There are three main types of calderas, based on their formation and characteristics. They are:
 - **Crater-lake calderas:** These are formed by the collapse of a stratovolcano after a Plinian eruption, which is very explosive and releases huge amounts of lava, ash, and rocks. These calderas often fill with water, forming lakes.
 - **Shield volcano calderas:** These are formed by the gradual subsidence of a shield volcano due to the periodic release of lava. This is less explosive and produces fountains of lava. These calderas have nested or terraced shapes, rather than a single large depression.
 - **Resurgent calderas:** These are the largest and rarest type of calderas, formed by the widespread collapse of vast magma chambers due to extremely destructive eruptions called pyroclastic sheet flows. These eruptions have not occurred in historic times. These calderas may rise again due to magma pressure, forming domes or islands.

BLETCHLEY DECLARATION



Why in the news?

Nations from around the globe have united in an agreement – the Bletchley Declaration to tackle the pressing concerns related to cutting-edge AI at the first Artificial Intelligence (AI) Safety Summit in the United Kingdom.

Artificial Intelligence (AI):

- AI refers to computer systems that can perform tasks that typically require human intelligence, such as problem-solving, learning, and decision-making.

- It encompasses machine learning, deep learning, natural language processing, and robotics.
- AI has numerous applications in industries like healthcare, finance, transportation, and more.

About AI Safety Summit

- The UK's AI Safety Summit convened technology experts, global leaders, and delegates from 27 countries and the European Union.
- **Objective:** To establish a comprehensive framework for mitigating the potential risks associated with AI while maximising its benefits.
- This significant event unfolded at Bletchley Park, a historically renowned site that once served as the headquarters for codebreakers during the Second World War.
- The outcome of this gathering was the formation of the 'Bletchley Declaration.'
- South Korea is slated to host the next AI Safety Summit in six months, followed by a second summit hosted by France another six months later.
- The Bletchley Declaration was signed by more than 27 countries, notably **India and China, the United States, the United Kingdom, and the European Union.**

What does the Bletchley Declaration Mean?

- At its core, the Bletchley Declaration represents international cooperation to address transformative technological advancements.
- It underscores the shared responsibility of governments, the private sector, and the global community to ensure AI's positive impact.
- The declaration prioritises AI safety and responsible development to maximise benefits while mitigating risks.
- **Global Collaboration:**
 - **Robust International Cooperation:** The

declaration highlights the need for strong international collaboration.

- **Scientific Research:** It recognizes the importance of scientific research and the establishment of dedicated networks dedicated to frontier AI safety.
- **Evidence-Based Policymaking:** his commitment reflects a shared dedication to evidence-based policymaking, which is crucial for effectively managing the inherent risks of AI while unlocking its immense potential.
- **Holistic Approach:**
 - **Comprehensive Risk Assessment:** The declaration underscores the importance of addressing AI-related risks like cybersecurity, biotechnology, and disinformation.
 - **International Cooperation Framework:** It provides a framework for international cooperation and the development of risk-based policies.

LUCY MISSION



Why in the news?

NASA's Lucy mission has discovered that the asteroid Dinkinesh is actually a binary system of two asteroids.

About Lucy Mission:

The Lucy mission, initiated by NASA, is an extraordinary venture designed to explore the enigmatic Trojan asteroids of Jupiter. Launched successfully on October 16, 2021, from the Kennedy Space Center in Florida, the mission is set to span 12 years, providing valuable insights into these ancient relics of our solar system's formation.

Key Aspects of the Lucy Mission:

- **Objective:** Lucy is the first mission of its kind, dedicated to the exploration of Jupiter's Trojan asteroids. These asteroids share the same orbit

as Jupiter, with two distinct groups at the leading (L4) and trailing (L5) Lagrangian points of the planet.

- **Mission Duration:** Over its 12-year mission duration, Lucy will make close encounters with a remarkable number of asteroids. It will pass by two asteroids within the asteroid belt between Mars and Jupiter, followed by encounters with ten Trojan asteroids, including both individual asteroids and the moons of some of them.
- **Earth Flybys:** As a unique feature, Lucy will execute three Earth flybys. These flybys will utilize Earth's gravity to provide the necessary velocity adjustments, allowing Lucy to reach its target Trojans. This marks Lucy as the first spacecraft to return to Earth's vicinity from the outer solar system.
- **Scientific Instruments:** Lucy is equipped with two infrared spectrometers and four cameras, enabling it to conduct detailed observations and gather critical data about the Trojan asteroids.

Trojan Asteroids:

Trojan asteroids are asteroids that share Jupiter's orbit but are situated at the planet's Lagrangian points, specifically the leading (L4) and trailing (L5) points.

Key characteristics of Trojan asteroids include:

- **Stable Orbits:** These asteroids occupy stable Lagrangian points within Jupiter's orbit around the Sun, maintaining a stable position despite the gravitational forces at play.
- **Ancient Remnants:** Trojan asteroids are believed to be some of the oldest remnants from the formation of the solar system, dating back approximately 5 billion years.
- **Two Groups:** There are over 4,800 known Trojan asteroids associated with Jupiter, and they are categorized into two loose groups: the leading group ahead of Jupiter in its orbit and the trailing group, positioned at the same distance from the Sun as Jupiter.

LUCY MISSION

Studying Trojan Asteroids of Jupiter

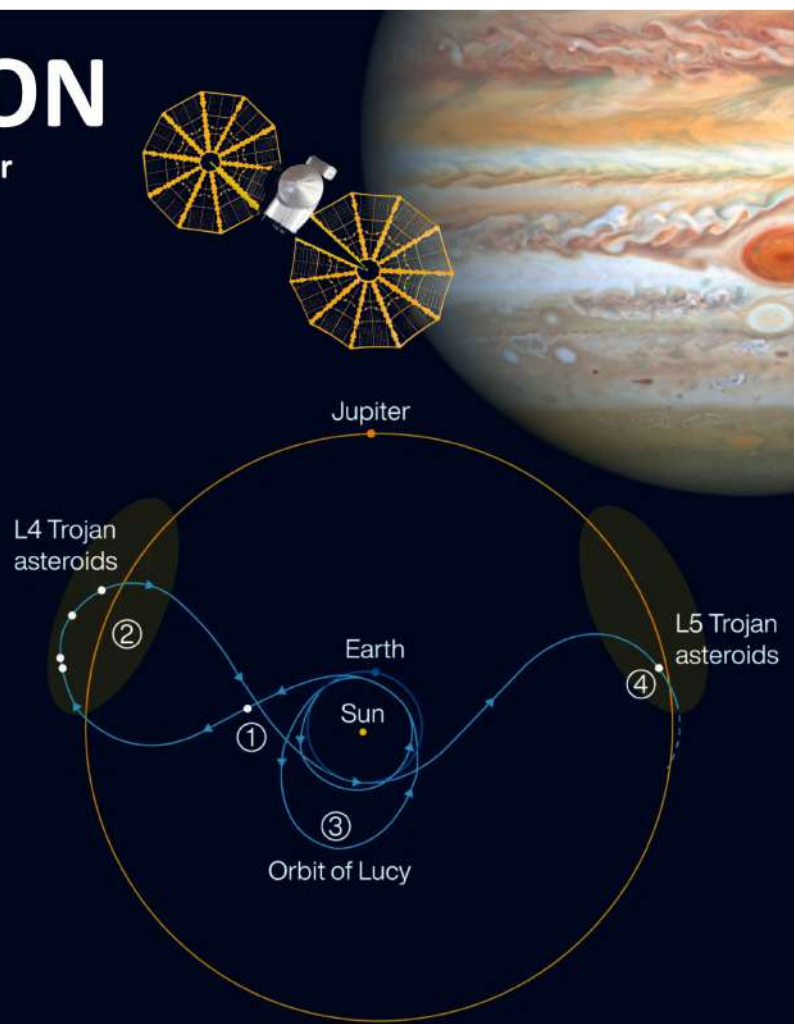
7 CELESTIAL BODIES INTERCEPTED

1. Donaldjohanson
2. Eurybates
3. Polymele
4. Leucus
5. Orus
6. Patroclus
7. Menoetius

REPEAT EVERY 12 YEARS

Earth Gravity Assists

No other mission has been launched to as many different destinations in independent orbits around the Sun



Lagrange Points:

Lagrange points are positions in space where the gravitational forces of a two-body system, such as the Sun and the Earth or Sun and Jupiter, create regions of enhanced attraction and repulsion. These points have significance for several reasons:

- **Balanced Forces:** At Lagrange points, the gravitational pull of two large masses precisely equals the centripetal force required for a smaller object to move with them, resulting in a state of equilibrium.
- **Spacecraft Utilization:** Spacecraft can use Lagrange points to reduce fuel consumption required to maintain a stable position in space, making them advantageous for missions like Lucy.

DEEPAKE TECHNOLOGY



Why in the news?

Following the viral spread of a deepfaked video featuring a celebrity, the Ministry of Electronics and Information Technology (MeitY) reminded social media companies of their legal obligation to remove such content from their platforms under the IT Act 2000 and IT Rules 2021.

What are Deepfakes?

- Deepfakes, a fusion of “deep learning” and “fake,” represent the result of artificial intelligence (AI) and machine learning advancements.
- They can effectively modify individuals’ visual

and auditory aspects, including their appearances, speeches, and actions, within video and audio content.

- Deepfake technology relies on a complex interplay of two key algorithms, a generator and a discriminator, operating within a generative adversarial network (GAN). These algorithms use deep learning techniques like neural networks to create highly realistic and convincing fake content.
 - **Generator Algorithm:** The generator's primary role is to produce initial fake digital content, including audio, photographs, or videos. It aims to closely mimic the target individual's appearance, voice, or behaviour.
 - **Discriminator Algorithm:** The discriminator evaluates the generator-generated content to assess its authenticity or fakeness.
- The generator and discriminator engage in a continuous feedback loop, repeating the process multiple times to enhance the quality and realism of the generated content. This iterative cycle drives the improvement of deepfakes.

Concerns About Deepfakes:

- **Spread misinformation and disinformation:** Deepfakes can create false content that misrepresents individuals, organisations, or events, leading to the dissemination of inaccurate information.
- **Undermine trust in institutions:** Distrust in online content can erode confidence in institutions like the media, government, and law enforcement.
- **Damage reputations:** Fake videos and audio can tarnish a person's image, affecting their professional and personal life.
- **Enable blackmail and extortion:** Threats to release fabricated content can be used for blackmail and extortion.
- **Inciting social and political unrest:** Deepfakes can fuel division by depicting individuals from various groups engaging in actions designed to

provoke anger or offence.

- **Invasion of privacy:** Deepfakes violate personal privacy by creating explicit content using regular images or videos.
- **Financial fraud:** Deepfakes may facilitate fraud by impersonating individuals in video calls or creating fraudulent money requests.

Preventing and Detecting Deepfakes

Preventing the creation and spread of deepfakes and identifying them when they appear is crucial in mitigating their potential harm.

Prevention:

- **Education and Awareness:** Educating the public about the existence and implications of deepfakes can reduce the likelihood of people believing or sharing them.
- **Watermarking and Authentication:** Content creators can add digital watermarks or authentication mechanisms to their media to verify authenticity.
- **Blockchain Technology:** Implementing blockchain to track the provenance of digital media can help verify its source and integrity.
- **Secure Storage:** Storing original media in secure and tamper-proof environments can make it more challenging for malicious actors to access and manipulate content.
- **Strengthening Copyright Laws:** Enhancing legal protections for content creators and stricter enforcement of copyright laws can deter the creation and distribution of deepfakes.

Detection:

- **Deepfake Detection Tools:** Developing and utilising AI-based tools and software designed to identify inconsistencies or anomalies in audio, video, or image content that may indicate deepfake manipulation.
- **Media Forensics:** Experts in media forensics can scrutinise content for irregularities in lighting, shadows, reflections, and facial features

that may indicate manipulation.

- **Metadata Analysis:** Analyzing the metadata of media files, such as timestamps and geolocation data, can help confirm the authenticity of the content.
- **Comparative Analysis:** Comparing the suspected deepfake with known, authentic content of the same subject can reveal discrepancies.
- **User Verification:** Implement user verification mechanisms on social media platforms and websites to ensure the authenticity of content creators.
- **Algorithm Development:** Continuously improve AI algorithms for detecting deepfakes to keep pace with evolving deepfake technology.
- **Reporting Mechanisms:** Establish clear and accessible reporting mechanisms for users to flag suspicious content on social media and online platforms.
- **Legislation and Regulation:** Enact laws and regulations that hold creators and distributors of deepfakes accountable for their actions.

A comprehensive approach to prevention and detection involves a combination of technological advancements, public awareness, legal measures, and collaborative efforts by tech companies, law enforcement, and the general public to combat the potential harm caused by deepfakes.

CLOUD SEEDING



Why in the news?

Delhi is considering the implementation of artificial rain techniques as a measure to address the escalating air pollution levels.

Overview of Cloud Formation:

- Comprised of minuscule water droplets or ice crystals.
- Form when atmospheric water vapor cools and

condenses around particles like dust or salt.

- Water droplets or ice crystals require condensation or ice nuclei.
- Without these particles, precipitation in the form of raindrops or snowflakes cannot occur.

Cloud Seeding:

- Artificial method to boost rainfall by introducing specific substances into clouds.
- Aircraft release chemicals (e.g., silver iodide, potassium iodide, dry ice) into the atmosphere.
- Attracts water vapor, leading to the formation of rain clouds.
- Takes approximately half an hour for cloud seeding to induce rainfall.

Cloud Seeding Techniques:

- **Hygroscopic Cloud Seeding:**
 - Objective: Accelerate droplet coalescence in liquid clouds.
 - Seeding agents act as efficient cloud condensation nuclei (CCN) or Giant Cloud Condensation Nuclei (GCCN).
 - Strengthens condensation and collision-coalescence process, increasing precipitation efficiency.
- **Glaciogenic Cloud Seeding:**
 - Centers on prompting the generation of ice in clouds that exist in a supercooled state.
 - Involves dispersing efficient ice nuclei (e.g., silver iodide, dry ice) into the cloud.
 - Enhances ice particle production, leading to increased rainfall.

Utility of Cloud Seeding:

- Reducing drought impact.
- Forest fire prevention.
- Augmenting precipitation levels.

- Improving air quality.

CLOUD SEEDING



Silver Release from Aircraft:

- Aircraft releases silver into the atmosphere.
- The silver serves as a seeding agent.

Targeted Cloud Interaction:

- Silver iodide particles introduced into the targeted clouds.
- Specific cloud types are the focus of the seeding process.

Ice Crystal Formation Assistance:

- Silver iodide aids in the initiation of ice crystal formation within the cloud.

Increased Particle Weight:

- Ice crystals grow heavier, making them too weighty to remain suspended in the air.

Precipitation Initiation:

- Ice crystals fall from the cloud, often melting on their descent.
- This process contributes to the formation of rain.

Success Story: Cloud Seeding Experiment in Solapur:

- Location: Solapur city, known for low rainfall on the leeward side of the Western Ghats.
- Outcome: Achieved an 18% relative enhancement in rainfall through a cloud seeding experiment.

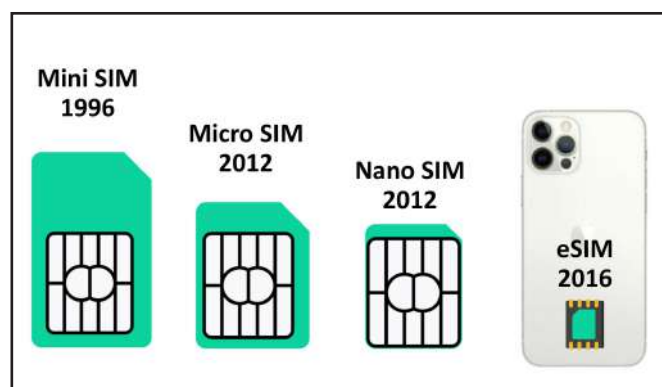
ESIM

Why in the news?

Marking a new era, tech industry leaders such as Apple with its iPhones, Google's Pixel series, and Samsung have incorporated eSIM capability into their products.

Background Information: SIM

- A 'SIM,' short for 'subscriber identification module,' is an integrated circuit or microchip that identifies a subscriber within a particular network.
- This SIM card is a small, removable card used in mobile phones and other cellular devices.
- It contains essential information that identifies the device to the mobile network, including a unique serial number (IMSI), the mobile network's information, and a secure element for authentication.
- **SIM cards adhere to the ISO/IEC 7816 International Standard** maintained by the International Organization for Standardization and the International Electrotechnical Commission.



What is eSIM?

- An eSIM, short for "embedded SIM," is a digital SIM card built into a mobile device instead of a physical removable card like a traditional SIM card.

- eSIM technology allows users to activate and switch between mobile networks and plans without needing a physical SIM card replacement.

Key features and characteristics of eSIMs include:

- **Embedded Nature:** eSIMs are integrated into the device during manufacturing and cannot be removed or replaced by the user. This design saves physical space in the device.
- **Remote Provisioning:** eSIMs can be remotely provisioned or activated by the user or mobile service provider. This means users can choose their mobile plan and network by downloading the necessary data to the eSIM, eliminating the need for a physical card.
- **Multiple Profiles:** Many eSIM-enabled devices can store multiple profiles, allowing users to switch between different mobile service providers or plans directly on the device without changing the SIM Card.
- **Compatibility:** eSIM technology is becoming more widespread and is supported by various mobile carriers and device manufacturers, making it easier for users to use eSIM functionality.
- **International Roaming:** eSIMs are particularly useful for international travellers. Users can add or switch to a local carrier's plan while traveling, avoiding expensive international roaming fees.
- **Environmental Impact:** The reduction of physical SIM cards can reduce e-waste and the environmental impact associated with manufacturing and disposing plastic SIM cards.

Key challenges associated with eSIM technology:

- **Interoperability:** Varying standards can cause compatibility issues between carriers and devices. eSIM interoperability means an eSIM's ability to work with multiple carriers.
- **Security:** eSIMs require strong security measures to protect against data breaches and software attacks like eSIM swapping.
- **Regulation:** Developing regulatory frameworks

for eSIM technology is a complex task that involves balancing innovation and consumer protection.

- **Limited eSIM Adoption:** Not all carriers have embraced eSIM technology, especially when serving localised audiences.
- **Support and Monitoring Challenges:** IoT adopters have cited a lack of technical support and monitoring tools as a significant challenge.
- **Data Privacy Concerns:** eSIM technology theoretically allows network operators to track subscriber data, including activity within apps on the device.
- **User Digital Literacy:** In some countries, like the United States, subscribers can self-program eSIMs. This may be challenging for individuals with low digital literacy, including elderly users.

REFERENCE FUEL

Why in the news?

India has commenced the production of 'reference' petrol and diesel, entering an exclusive group of nations manufacturing this highly specialized fuel essential for automobile testing.

About Reference fuel:

Reference fuels are specialized, high-quality gasoline and diesel products designed for the precise calibration and testing of automobiles by both automotive original equipment manufacturers (OEMs) and organizations involved in automotive testing and certification. These fuels are essential for various vehicle testing purposes, ensuring that the fuel used meets strict quality and performance standards.

Key Differences in Fuel Quality

One of the primary distinctions between reference fuels and regular or premium fuels is the octane number, a crucial factor in determining fuel performance. Here's a breakdown of the key differences:

- **Regular Fuel:** Regular gasoline typically has an octane number of 87. This is the standard fuel available at most gas stations and is suitable for everyday use in most vehicles.
- **Premium Fuel:** Premium gasoline is of higher quality, featuring an octane number of 91. It offers improved engine performance and is often recommended for high-performance and luxury vehicles.
- **Reference Grade Fuel:** Reference grade fuel is of the highest quality, boasting an octane number of 97. This elevated octane rating ensures precise and consistent testing results in vehicle performance evaluations.

Stringent Specifications

Reference fuels are subject to strict government regulations, which outline a wide range of specifications that must be met. These specifications include:

- **Cetane Number:** Important for diesel fuel, as it affects ignition quality.
- **Flash Point:** The temperature at which the fuel can ignite.
- **Viscosity:** A measure of the fuel's resistance to flow.
- **Sulfur Content:** Controlling sulfur levels is cru-

About Octane and Cetane:

Property	Octane Number	Cetane Number
Definition	A measure of a gasoline's resistance to knocking or pinging in spark-ignition engines. Higher octane numbers indicate a greater resistance to knocking.	A measure of a diesel fuel's ignition quality, indicating how easily it ignites under compression. Higher cetane numbers suggest better ignition quality.
Fuel Type	Applicable to gasoline, which is used in spark-ignition engines.	Applicable to diesel fuel, which is used in compression-ignition engines.
Number Range	Typically, octane numbers for gasoline range from 87 (regular) to 91+ (premium).	Cetane numbers for diesel fuel generally range from 40 to 55 or higher.
Effect on Engine	Higher octane numbers prevent knocking in gasoline engines, allowing for higher compression ratios and improved performance.	Higher cetane numbers result in better ignition and smoother combustion in diesel engines, reducing noise and emissions.
Performance	High-octane gasoline is often used in high-performance and sports cars to maximize engine power and efficiency.	High-cetane diesel fuel is preferred in diesel engines for better cold starts, reduced emissions, and improved fuel efficiency.
Knock Resistance	A higher octane number indicates better resistance to engine knock or detonation, which can damage the engine.	A higher cetane number signifies quicker, smoother ignition and combustion, reducing engine noise.
Engine Type	Octane numbers are relevant for spark-ignition (gasoline) engines found in most passenger vehicles.	Cetane numbers are relevant for compression-ignition (diesel) engines commonly used in trucks and some passenger cars.

cial for reducing emissions.

- **Water Content:** Excess water can be detrimental to the engine.
- **Hydrogen Purity:** Ensuring the fuel's purity for accurate testing.
- **Acid Number:** Monitoring acidity to prevent corrosion and engine damage.

CARBON NANO FLORETS

Why in the news?

Scientists at IIT Bombay have successfully created particles that can absorb sunlight at three different frequencies and convert it into heat with an impressive efficiency rate of 87%

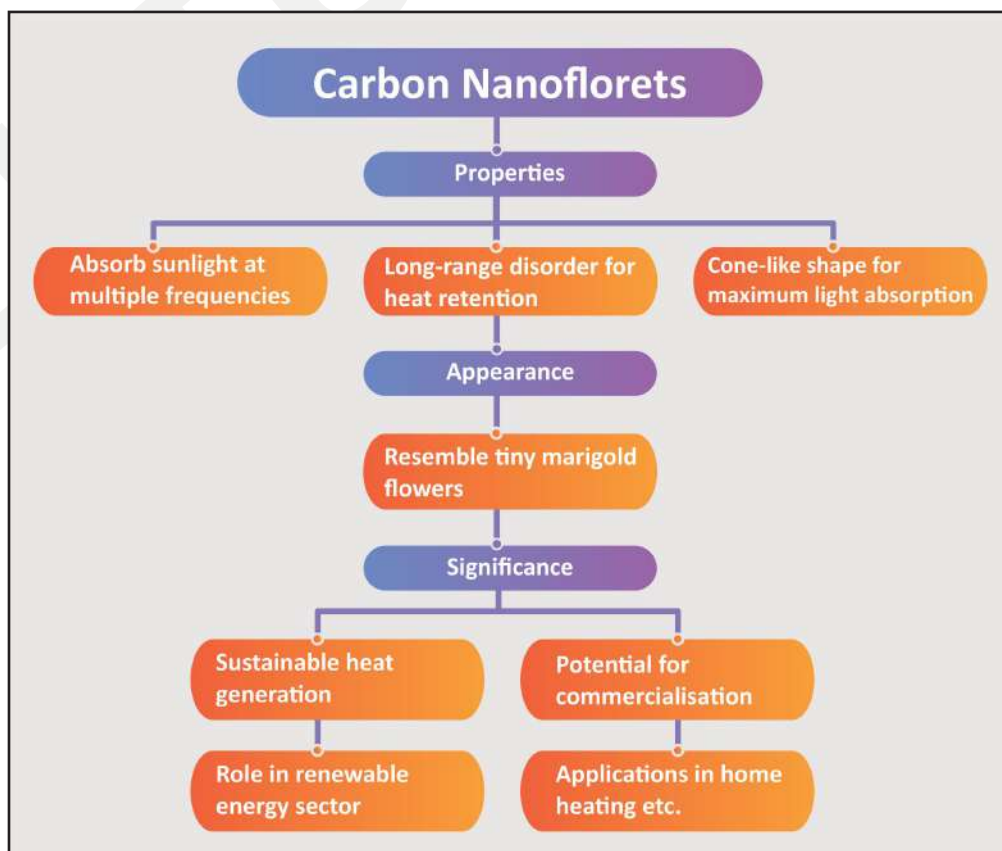
About Carbon Nano Florets:

- The potential for revolutionizing solar energy conversion lies within the carbon nanostructure. Scientists initiated their research using dendritic fibrous nanosilica (DFNS), a white material, and engineered it into the deepest black carbon nanoflorets.
- In the process of creating these carbon nanoflorets, DFNS powder was subjected to heat in a furnace while being exposed to acetylene gas within the chamber. The transformation from white to black signified the deposition of carbon onto the DFNS.
- Upon the dissolution of the DFNS using a potent chemical, what

remained were carbon cone-shaped spherical nanostructures. These nanoflorets take on the appearance of diminutive marigold flowers.

Special properties of Nano Florets:

- The distinctive characteristics of carbon nanoflorets include their unparalleled capacity to absorb sunlight across various frequencies and convert it into heat with remarkable effectiveness.
- These nanoflorets exhibit the exceptional ability to absorb infrared, visible, and ultraviolet light, setting them apart from conventional materials for solar-thermal conversion, which typically only absorb visible and ultraviolet light.
- Their conical structure serves to minimize reflection, ensuring maximum light absorption by allowing most incident light to be internally reflected.
- Moreover, the nanoflorets feature long-range disorder, which hinders heat dissipation over extended distances, thus facilitating efficient heat retention.



Significance of Nano Florets:

- This material is poised for commercialization due to the cost-effectiveness of carbon and the sustainable heat generation capabilities of nanoflorets, eliminating the need for burning fossil fuels.
- A single square meter of carbon nanofloret coating has the remarkable capacity to vaporize 5 liters of water per hour, surpassing the performance of conventional commercial solar stills. This breakthrough opens the door to sustainable solutions for heating residential spaces and sterilizing hospital surfaces without dependence on fossil fuels.
- With its diverse array of potential applications and minimal environmental footprint, this material holds the potential to make a substantial impact in the realm of renewable energy.

WOLBACHIA**Why in the news?**

The global rise in dengue cases remains a pressing issue. Researchers assert that the utilization of the Wolbachia Method can potentially reduce the transmission of dengue by a substantial 77%.

Introduction:

Wolbachia, a naturally occurring bacterium found in many insect species, including some mosquitoes, has become a powerful tool in the fight against mosquito-borne diseases like dengue, chikungunya, Zika, and yellow fever. This bacterium can inhibit viral infections in mosquitoes and has the potential to reduce disease transmission significantly. Here are the key points and developments related to Wolbachia and its role in combating dengue.

Wolbachia's Role in Disease Prevention:

- The *Aedes aegypti* mosquito, responsible for transmitting diseases like dengue, chikungunya, Zika, and yellow fever, can be rendered incapable of transmitting these diseases when arti-

cially infected with Wolbachia.

- Wolbachia inhibits viral infection by preventing the replication of the virus in the mosquito, reducing the number of infected mosquitoes in the population.

Population Replacement Strategy:

- Scientists have employed a method called the "Population Replacement Strategy." They infected some mosquitoes with Wolbachia and released them into affected areas.
- These Wolbachia-infected mosquitoes bred with local mosquitoes, gradually replacing the mosquito population in the area with those carrying Wolbachia.

Results and Impact:

- After 27 months of implementing the Population Replacement Strategy, researchers observed a 77% reduction in the incidence of dengue in areas where Wolbachia-infected mosquitoes were released, compared to areas without such deployments.
- Importantly, this approach is not limited to dengue and has the potential to block the transmission of other viruses present in mosquitoes.

Mass Production of Wolbachia-Infected Mosquitoes:

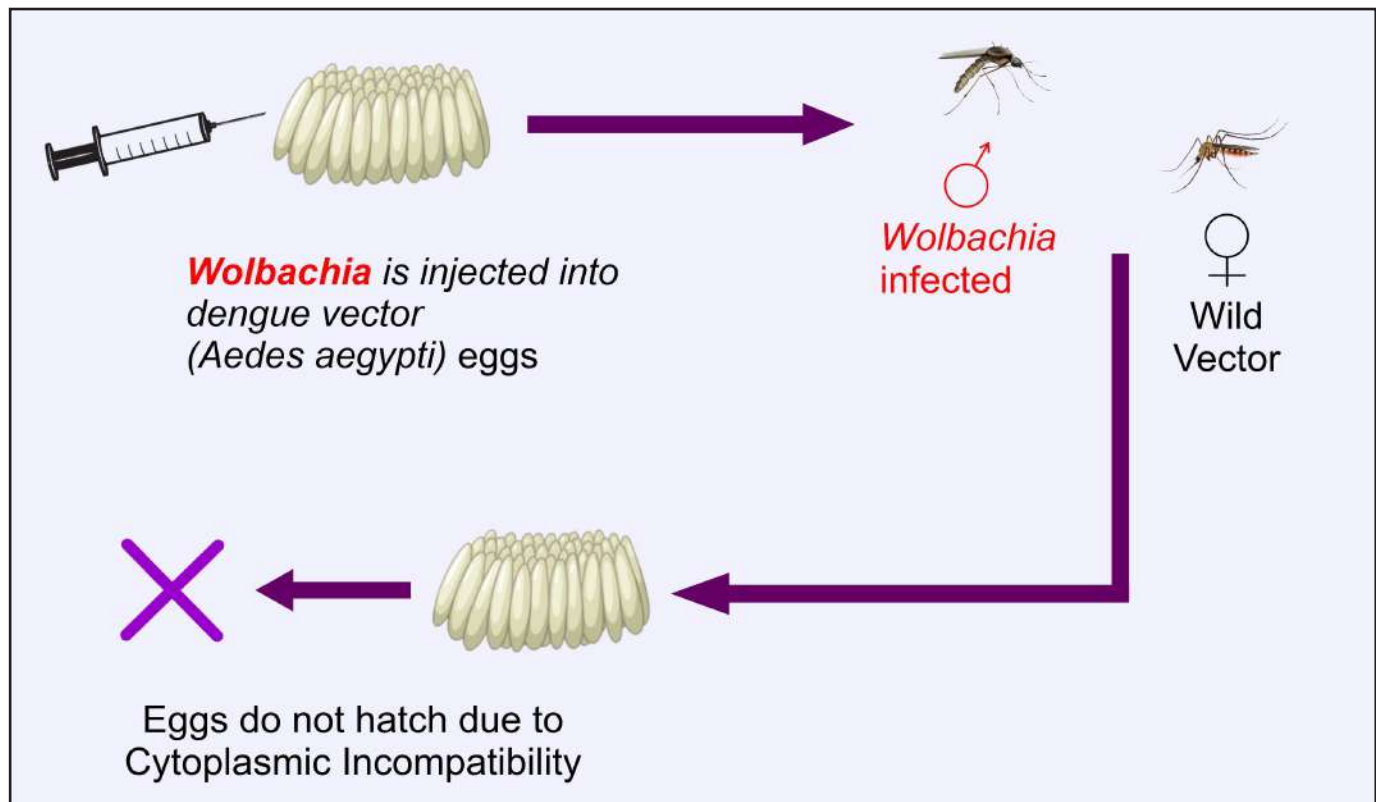
- Companies like InnoVaFeed are exploring mass production of Wolbachia-infected mosquitoes as a sustainable way to control dengue and other mosquito-borne diseases.

Indian Council of Medical Research (ICMR) Project:

- ICMR has been working on a project to develop a strain of *Aedes aegypti* mosquitoes containing Wolbachia, known as the Puducherry Strain.
- This strain was developed in collaboration with Monash University in Australia and is a promising development in the fight against mosquito-borne diseases.

About Dengue:

- Dengue is a tropical disease caused by the dengue virus, primarily transmitted by *Aedes ae-*



gypti mosquitoes.

- Common symptoms include fever, headache, joint and muscle pain, and a characteristic skin rash.
- There are four dengue virus strains, with Types II and IV considered more severe.

Global Impact of Dengue:

- Dengue has seen a significant increase in global incidence, with many cases going underreported, according to the World Health Organization (WHO).
- WHO estimates approximately 390 million dengue virus infections annually, with 96 million showing symptoms.
- In India, over 150,000 dengue cases are reported each year, as per the National Vector-Borne Disease Control Programme (NVBDCP).

Dengue Vaccine:

- The dengue vaccine CYD-TDV or Dengvaxia received approval from the US Food & Drug Administration in 2019, becoming the first dengue vaccine to gain regulatory approval in the US.

- Dengvaxia is a live, attenuated dengue virus vaccine intended for individuals aged 9 to 16 with laboratory-confirmed prior dengue infection living in endemic areas.

Conclusion:

The use of Wolbachia in controlling mosquito-borne diseases, particularly dengue, represents a promising approach with significant potential for reducing the global burden of these diseases. Mass production and ongoing research in this field hold the key to its future success in disease prevention.

CHIKUNGUNYA

Why in the news?

The United States FDA has granted approval to the world's first vaccine for Chikungunya.

About Chikungunya

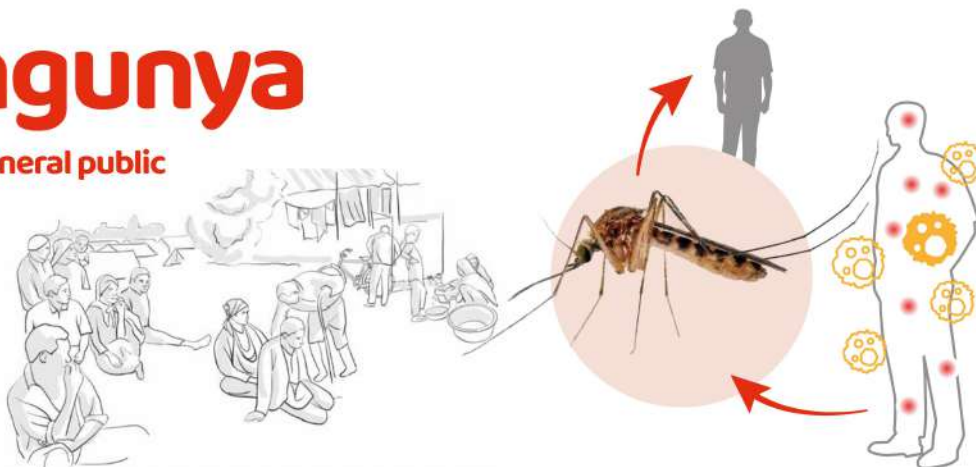
- Chikungunya is a viral infectious disease primarily transmitted to humans through mosquito bites.

Chikungunya

Information for the general public

Source of infection

Vector-borne, transmitted by mosquitoes.



Type of exposure & prevention

Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It is caused by the chikungunya virus.



Limit opportunities for mosquitoes to breed by removing garbage and covering vessels that allow water to pool such as vases, tyres and buckets.



Use insecticides to reduce mosquito breeding



Use window screens, repellents, insecticide treated bed nets, coils and vaporizers



Wear light coloured clothing that covers your arms and legs



Keep all water containers sealed and clean them regularly

Symptoms



Fever



Joint pain



Muscular pain



Joint swelling



Headaches



Nausea



Fatigue



Rash

Actions to take in case of symptoms:



Seek medical advice immediately. There are similarities between the symptoms of chikungunya, dengue and Zika and so it can sometimes be misdiagnosed.

- **Causative Agent:** Caused by the Chikungunya virus (CHIKV), an RNA virus belonging to the alphavirus genus in the family *Togaviridae*.
- **Historical Context:** First reported in Tanzania in 1952, Chikungunya later spread to various regions across Asia, Africa, and the Americas.
- **Transmission:** Transmitted by *Aedes aegypti* and *Aedes albopictus* mosquitoes, which are also vectors for dengue and Zika viruses. These mosquitoes are active during the daytime. Additionally, transmission from a pregnant woman to newborns is possible.
- **Symptoms:** Symptoms include severe joint pain, reduced mobility, fever, joint swelling, muscle pain, headache, nausea, fatigue, and rash. Similar symptoms with dengue and Zika viruses can lead to misdiagnosis.
- **Treatment:** Clinical management involves anti-pyretics, optimal analgesics, fluid intake, and rest. There is no specific antiviral drug for CHIKV infections.
- **Prevention & Control:** Focus on controlling mosquito vectors, avoiding bites, and using preventive measures like mosquito nets, repellents, and insecticides.

Chikungunya Vaccine:

- Ixchiq is a single-dose vaccine containing a live, weakened Chikungunya virus, potentially causing symptoms akin to natural infection.
- Developed by Valneva, a European vaccine manufacturing company. It is approved for individuals aged 18 years or older, who are at an increased risk of virus exposure.

Factors Contributing to the Rise in Chikungunya Cases:

The surge in Chikungunya cases can be attributed to several factors, particularly in urban, peri-urban, and rural areas:

- **Haphazard Urbanization:** Unplanned and rapid urbanization has created conducive environments for the proliferation of disease vectors.

- **Inadequate Water and Waste Management:** Deficient management of water resources and solid waste has resulted in the creation of breeding sites for mosquitoes, facilitating the spread of Chikungunya.
- **Lack of Antiviral Drug or Vaccine:** The absence of a specific antiviral drug or vaccine leaves the population vulnerable to Chikungunya, as there is no targeted medical intervention available.

Governmental Measures to Combat Chikungunya:

The Indian government has implemented initiatives to prevent and control Chikungunya, primarily through the National Vector Borne Disease Control Programme (NVBDCP):

- A comprehensive program under the Ministry of Health and Family Welfare.
- Focuses on preventing and controlling various vector-borne diseases, including Chikungunya.
- Aims to create awareness, conduct surveillance, and implement measures to reduce the incidence of diseases like Malaria, Filariasis, Kala-azar, Japanese Encephalitis (JE), Dengue, and Chikungunya.

TANTALUM

Why in the news?

In a groundbreaking revelation, a team of researchers from the Indian Institute of Technology (IIT), Ropar, has discovered the presence of tantalum, a rare metal, in the sands of the Sutlej River in Punjab. This discovery is poised to have far-reaching implications, particularly in the realms of electronics, semiconductors, and India's strategic mineral policy.

Understanding Tantalum:

- **Properties:**
 - Tantalum, with atomic number 73, is characterized by its grey color, heaviness, and

exceptional corrosion resistance.

- Possessing high ductility, tantalum can be stretched into thin wires without breaking, and it boasts an extremely high melting point, surpassed only by tungsten and rhenium.

- **Discovery:**

- Discovered by Swedish chemist Anders Gustaf Ekenberg in 1802, tantalum was found in minerals obtained from Ytterby, Sweden.

Uses of Tantalum:

- **Electronic Sector:**

- Tantalum plays a pivotal role in the electronics sector, particularly in the manufacture of capacitors.
- Capacitors made from tantalum are known for their ability to store more electricity in smaller sizes, making them ideal for devices like smartphones, laptops, and digital cameras.

- **Substitute for Platinum:**

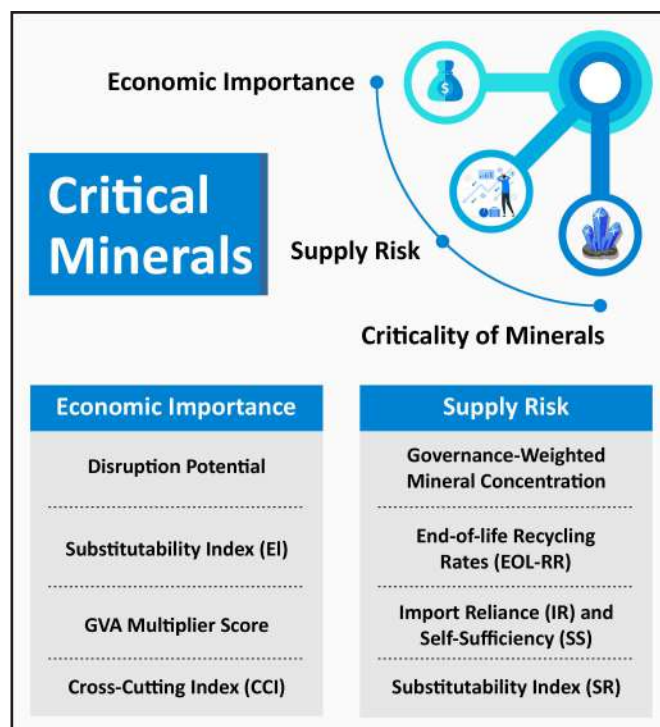
- Its high melting point positions tantalum as a cost-effective substitute for platinum in various applications.

- **Medical Applications:**

- Tantalum, due to its non-reactivity with bodily fluids, is employed in the production of surgical equipment and implants, including artificial joints.

- **Industrial Uses:**

- Tantalum carbide (TaC) in combination with graphite forms one of the hardest known materials, utilized on the cutting edges of high-speed machine tools.
- Widely used in components for chemical plants, nuclear power plants, aerospace, and missile systems.



Significance of Tantalum Discovery in Sutlej River:

- **Semiconductor Manufacturing:**

- The discovery holds particular significance for India's semiconductor industry, aligning with recent governmental efforts to boost domestic manufacturing.

- **Critical Mineral Policy:**

- Tantalum is listed in India's critical mineral policy, which addresses the country's dependence on imports for 10 crucial minerals.
- This policy strategically maps mineral requirements for sectors such as renewables, defense, electronics, telecommunications, and transportation.

- **Reducing Dependence on China:**

- The discovery of tantalum in the Sutlej River is a step towards reducing India's reliance on China for critical minerals.

- **Renewable Energy Goals:**

- Supports India's ambitious renewable energy targets, aiming for a 500 GW share in the

grid and a significant transition to electric vehicles by 2030.

- **Economic Impact on State:**

- The tantalum discovery has the potential to positively impact the state's economy by promoting the mining of these valuable metals.

PRELIMS QUESTION

Q1. Consider the following statements:

1. Crater-lake calderas result from the collapse of stratovolcanoes .
2. Shield volcano calderas form gradually due to less explosive lava releases, creating nested or terraced depressions.

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

Q2. Which of the following options correctly describe the Bletchley Declaration?

- (a) It was issued by the parties to the United Nations Framework Convention on Climate Change (UNFCCC) at the COP27 summit.
- (b) It is a statement of principles on the safe development and use of artificial intelligence (AI).
- (c) It commits the African Union member states to working together to accelerate the digital transformation of Africa.
- (d) None

Q3. Consider the following:

1. Artificial Intelligence (AI) can analyze vast amounts of data much faster than humans.
2. AI has been used in medical diagnosis to assist doctors in identifying diseases.

3. AI is immune to biases and can make perfectly fair decisions.

How many of the statements are correct in the context of Artificial Intelligence?

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

Q4. Consider the following statements:

1. The Lucy Mission is led by the European Space Agency (ESA) in collaboration with NASA.
2. The mission aims to explore Jupiter's Trojan asteroids, which share the planet's orbit.

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

Q5. Consider the following statements:

1. These asteroids have stable orbits, maintaining their positions despite the gravitational forces at play.
2. Trojan asteroids are believed to be among the youngest celestial bodies in our solar system, dating back just a few million years.

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

Q6. With reference to the Deepfakes, consider the following statements:

1. Deepfakes use artificial intelligence (AI) to create highly realistic and convincing manipula-

tions.

2. They can effectively modify individuals' visual and auditory aspects, not their actions.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q7. Consider the following:

1. Media Forensics
2. Comparative Analysis
3. Metadata Analysis
4. AI based tools

How many of the above techniques can be used to detect Deepfakes?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q8. In the context of which of the following scenarios do some scientists propose the utilization of cirrus cloud thinning technique and the introduction of sulfate aerosol into the stratosphere? (2019)

- (a) Initiating artificial rains in specific regions.
- (b) Mitigating the frequency and severity of tropical cyclones.
- (c) Alleviating the detrimental impacts of solar wind on Earth.
- (d) Mitigating global warming.

Q9. Regarding cloud seeding or artificial rain techniques, evaluate the following statements:

1. It is a synthetic method aimed at diminishing condensation nuclei in the atmosphere.

2. Utilizes substances such as silver iodide, potassium iodide, and sulfate aerosols.
3. It amplifies the collision-coalescence mechanism of droplets, thereby promoting increased precipitation.

How many of the above statement/s is/are correct?

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

Q10. With reference to SIM, consider the following statements:

1. SIM stands for 'Service Information Module' and is an integrated circuit or microchip that identifies a subscriber within a particular network.
2. Currently, SIM Cards are used only in mobile phones.

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

Q11. Consider the following:

1. Saves physical space in the device
2. Store multiple profiles
3. Useful for travellers
4. Universal Compatibility
5. Unparalleled Security

How many of the above are advantages of eSIM technology?

- (a) Only one
- (b) Only two

(c) Only three

(d) Only four

Q12. Regarding the octane and cetane numbers, consider the following statements:

1. The octane number measures the ignition quality of diesel fuel.
2. A higher cetane number indicates better resistance to knocking in gasoline engines.

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

Q13. Which of the following best describes the purpose of reference fuels in the automotive industry?

- (a) Ensuring precise calibration and testing of automobiles
- (b) Developing new fuel formulations
- (c) Regulating fuel prices in the market
- (d) Monitoring engine oil quality

Q14. Consider the following statements about carbon nanoflorets:

1. Carbon nanoflorets can only absorb visible and ultraviolet light, unlike traditional solar-thermal conversion materials.
2. The conical structure of carbon nanoflorets enhances reflection, reducing light absorption.
3. Carbon nanoflorets' unique feature of long-range disorder promotes heat dissipation over extended distances.
4. Carbon nanoflorets possess the exceptional ability to absorb sunlight at various frequencies, converting it into heat effectively, unlike conventional solar-thermal materials.

How many of the above statement/s is/are correct?

(a) Only one

(b) Only two

(c) Only three

(d) All four

Q15. In relation to carbon nanotubes, assess the following statements: (2020)

1. They can serve as carriers for delivering drugs and antigens within the human body.
2. They have the potential to be fashioned into synthetic blood vessels for damaged areas of the human body.
3. They find utility in the field of biochemical sensors.
4. Carbon nanotubes do not naturally degrade in biological environments.

How many of the above statement/s is/are correct?

(a) Only one

(b) Only two

(c) Only three

(d) All four

Q16. The "Wolbachia method" is often discussed in the context of which of the following options? (2023)

- (a) Controlling the spread of viral diseases transmitted by mosquitoes
- (b) Converting agricultural residues into packaging materials
- (c) Producing environmentally friendly, biodegradable plastics
- (d) Generating biochar through the thermochemical conversion of biomass

Q17. Regarding Wolbachia method, consider the following statements:

1. Wolbachia is a naturally occurring bacterium commonly found in numerous arthropods.

2. It is a genetic engineering process utilized to manage the spread of viral diseases by mosquitoes.

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

Q18. Regarding the Chikungunya recently seen in the news, consider the following statements:

1. The Chikungunya virus is a DNA virus belonging to the alphavirus genus.
2. Chikungunya is primarily transmitted by Anopheles mosquitoes.
3. Transmission from a pregnant woman to newborns is not possible.

How many of the above statements are correct?

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

Q19. Regarding the Chikungunya Vaccine recently seen in the news, consider the following statements:

1. Ixchiq is a multi-dose vaccine containing a live, weakened Chikungunya virus.
2. The Chikungunya vaccine is approved for individuals of any age who are at risk of virus exposure.

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

Q20. Regarding Tantalum, consider the following statements:

1. Tantalum has atomic number 73.
2. It is highly corrosion-resistant.
3. Tantalum is crucial in the electronics sector, especially for capacitors known for efficient electricity storage.

How many of the above statement/s is/are correct?

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

ANSWERS

S. No.	Answers
1.	C
2.	B
3.	B
4.	B
5.	B
6.	A
7.	D
8.	A
9.	B
10.	D
11.	C
12.	D
13.	A
14.	A
15.	C
16.	A

17.	D
18.	D
19	D
20.	C

MAINS QUESTION

Q1. Discuss the correlation between the distribution of volcanoes and earthquake belts. How do tectonic plate boundaries play a pivotal role in shaping these patterns?

Q2. Discuss the significance of international collaboration in ensuring the safety of Artificial Intelligence (AI) technologies.

Q3. Discuss the significance of the Lucy Mission initiated by NASA in exploring the Trojan asteroids of Jupiter. Analyze the potential scientific and practical applications of the knowledge gained

through this mission.

Q4. Explain the concept of deepfakes and their potential societal impact. Discuss the strategies and technologies that can be employed to prevent and detection.

Q5. Discuss the role and ethical considerations associated with implementing large-scale geoengineering projects as a strategy to mitigate the effects of climate change.

Q6. Discuss key features and challenges of eSIM technology on the mobile telecommunications industry and its users.

Q7. Examine the impact of vector-borne diseases on public health in developing countries.

Q8. Examine the importance of critical minerals for India's strategic sectors. Discuss the challenges posed by their import dependency.



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TIPPING POINTS



Why in the news?

In a recent report by the United Nations University – Institute for Environment and Human Security (UNU-EHS), the world is edging closer to six interconnected risk tipping points. These points denote immediate and escalating threats on a global scale, encompassing various aspects of the environment and human security.

About Tipping Points

- In environmental science, a tipping point represents a critical threshold. Once this threshold is crossed, it triggers substantial and often irreversible changes in an environmental system.
- A risk tipping point signifies the moment when a socio-ecological system can no longer effectively mitigate risks and fulfill its expected functions. Beyond this juncture, the potential for catastrophic impacts on these systems significantly increases.

Identified Tipping Points

- **Extinctions:** The risk of irreversible loss of species.
- **Depleting Groundwater:** Affecting the availability of this essential resource.
- **Melting Glaciers:** The accelerated retreat of glaciers due to climate change.
- **Space Debris:** The proliferation of debris in space, posing risks to satellites and space missions.

- **Unbearable Heat:** Escalating temperatures leading to heat-related challenges.
- **Uninsurable Future:** The point at which certain risks become uninsurable due to their extreme nature.

Accelerated Extinctions

- Human-induced activities, such as land-use alteration, overexploitation, climate shifts, pollution, and the introduction of invasive species, have significantly hastened extinctions. While extinctions are part of Earth's natural evolution, the past century has witnessed the obliteration of over 400 vertebrate species.
- Shockingly, the survival of approximately one million plant and animal species remains at risk. Additionally, a substantial 32 million hectares of primary or regenerating forests vanished between 2010 and 2015.

Domino Effect on Ecosystems

- The disappearance of a single species can trigger a domino effect leading to the extinction of other dependent species, amplifying the strain on already fragile ecosystems. A prime example is the endangered gopher tortoise, which creates burrows used by more than 350 species, including the critically endangered dusky gopher frog.
- The absence of gopher tortoises could trigger the downfall of the dusky gopher frog, disrupting the balance in the entire forest ecosystem.

Depleting Groundwater Reserves

- Global aquifers, vital stores of groundwater, face a critical state, crucial for the primary freshwa-

ter source for over two billion people. Notably, 70% of this water is allocated for agricultural use. Alarmingly, 21 out of the world's 37 largest aquifers are depleting at a rate faster than they can be replenished.

- The complexity lies in the fact that aquifer water accumulation took millennia, rendering the resource effectively non-renewable, with recharging efforts demanding a similar timescale. In India, specifically in the state of Punjab, an overwhelming 78% of wells have been excessively tapped or overdrawn. Moreover, the north-western region of the country anticipates critically low groundwater levels by 2025.

Melting Glaciers:

- One critical tipping point relates to melting glaciers, which serve as vital water sources for drinking, irrigation, hydropower, and ecosystems. Due to global warming, the world's glaciers are melting at a rate twice as fast as in the preceding two decades, posing risks to approximately 9 billion people.
- Between 2000 and 2019, glaciers lost a staggering 267 gigatons of ice annually, equivalent to the mass of approximately 46,500 Great Pyramids of Giza.
- Even if global warming is limited to 1.5 degrees Celsius, we are projected to lose around 50% of glaciers by 2100, excluding those in Greenland and Antarctica.

Space Debris:

- Space debris, comprising objects ranging from tiny flecks of paint to sizable chunks of metal, presents another alarming tipping point. Among the approximately 34,260 objects orbiting Earth, merely a quarter are operational satellites, while the remainder consists of defunct satellites and discarded rocket stages.
- Additionally, an estimated 130 million fragments, measuring between 1 millimeter and 1 centimeter, are too small to track. Travelling at speeds exceeding 25,000 kilometers per hour, even the smallest debris can cause significant damage, including collisions among functional

satellites.

Unbearable Heat:

- The "unbearable heat" tipping point is associated with a "wet-bulb temperature" exceeding 35°C, which combines temperature and humidity. High humidity impedes sweat evaporation, exacerbating heat effects and resulting in organ failure and brain damage, making it a dire concern.

Uninsurable Future:

- The "uninsurable future" tipping point arises from the escalating frequency and severity of extreme weather events worldwide. These events have substantially increased damage costs, complicating the provision of insurance. Since the 1970s, losses from weather-related disasters have surged sevenfold, with 2022 alone witnessing \$313 billion in global economic losses.

Charting The Path Forward

In confronting these formidable challenges, a strategic way forward beckons. It necessitates a collective global effort encompassing the following actions:

- **Global Cooperation:** Prioritize and strengthen international collaboration to tackle the shared challenges faced by the world.
- **Aggressive Emissions Reductions:** Commit to robust measures to reduce greenhouse gas emissions, combat climate change, and limit the melting of glaciers and other environmental degradation.
- **Invest in Sustainable Energy:** Direct investments towards sustainable and renewable energy sources, reducing reliance on fossil fuels and mitigating environmental risks.
- **Biodiversity Protection:** Implement strategies to safeguard biodiversity and halt the accelerating rate of species extinction.
- **Enhanced Global Health Systems:** Strengthen and prepare global healthcare systems to cope with the consequences of unbearable heat and

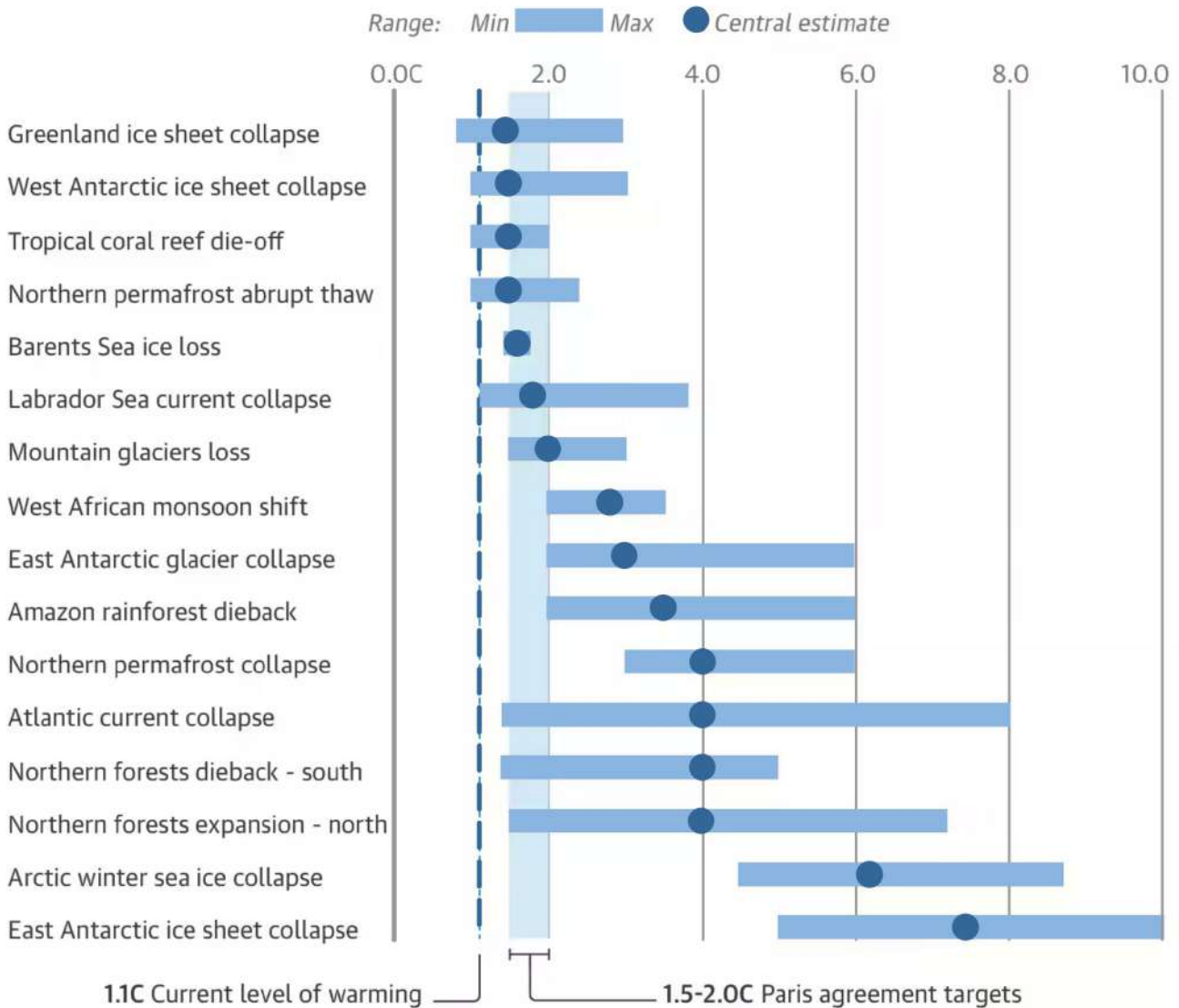
health-related challenges associated with extreme environmental conditions.

- **Conflict Resolution Mechanisms:** Enhance in-

ternational mechanisms for resolving conflicts, as cooperation and diplomacy are essential in the face of shared environmental threats.

The risk of climate tipping points is rising rapidly as the world heats up

Estimated range of global heating needed to pass tipping point temperature



Guardian graphic. Source: Armstrong McKay et al, Science, 2022. Note: Current global heating temperature rise 1.1°C
Paris agreement targets 1.5-2.0°C

NORTH KOEL RESERVOIR PROJECT

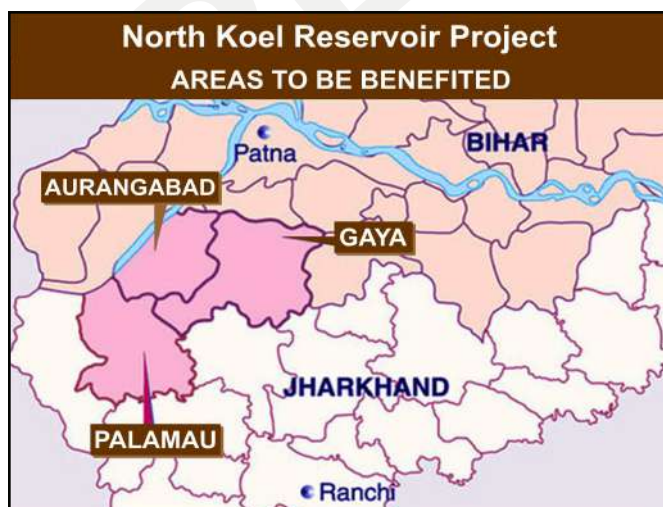


Why in the news?

The Cabinet Committee on Economic Affairs has granted approval for the revised project cost, aiming to revive the stalled North Koel Reservoir Project situated in both Jharkhand and Bihar.

North Koel Reservoir Project:

- **Inter-State Major Irrigation Project:** The North Koel Reservoir Project is a significant inter-state irrigation project with its command area spanning across the states of Bihar and Jharkhand.
- **Project Components:** The project includes a dam built on the North Koel River near Kutku Village in Latehar District, Jharkhand. Additionally, it features a barrage situated 96 km downstream of the dam, located in Palamu district, Jharkhand. The project comprises a Right Main Canal and a Left Main Canal that divert water from the barrage for various purposes.
- **Historical Background:** The proposal for the dam dates back to 1927, and construction commenced in 1972. However, concerns emerged that the dam's water could potentially pose a threat to the Betla National Park and the Palamu Tiger Reserve.



North Koel River:

- **River Origin:** The North Koel River is the second-largest right bank tributary of the River Sone. It originates in the Ranchi Plateau and enters the Palamau division, located below Natarhat near Rud.
- **Confluence:** The North Koel River meets the Sone River in Haidargarh, Palamu district, Jharkhand.
- **Tributaries:** Notable tributaries of the North Koel River include the Auranga, Amanat, and Burha Rivers.
- **Wildlife and Conservation:** The North Koel River serves as the northern boundary of the Betla National Park, contributing to the conservation of the region's biodiversity.

Betla National Park:

- **Jharkhand's Sole National Park:** Betla National Park is the only national park within the state of Jharkhand, India.
- **Geographical Location:** Situated on the western part of the Chhotanagpur plateau, Betla National Park showcases diverse landscapes and natural beauty.
- A section of Betla National Park was designated as the Palamu Tiger Reserve, which was one of the first nine Tiger Reserves declared in 1974. This reserve remains the sole Tiger Reserve in Jharkhand.
- The northern region of Betla National Park is traversed by the River Koel and its tributaries, enhancing the park's ecological significance.
- **Flora:** The national park features a rich flora, including tropical wet evergreen forests in lower regions, mixed deciduous forests in the middle, and temperate alpine forests in higher altitudes. Sal and bamboo forests dominate a significant part of the park's landscape.
- **Fauna:** Betla National Park is home to a diverse range of wildlife, such as elephants, leopards, panthers, monkeys, Indian civets, chital, bison, sloth bears, sambhar, nilgai, langurs, mouse

deer, porcupines, and chinkara.

- **Indian Grey Wolf:** Notably, Betla National Park and Palamu Tiger Reserve are dedicated to the conservation of the Indian Grey Wolf, with a thriving population. It is the only wildlife sanctuary with a specific focus on the Indian Grey Wolf.
- **Historical Significance:** The first-ever tiger census through pug mark counting was conducted within these forests in 1934, contributing to India's wildlife conservation efforts.
- **Netarhat Hill Station:** The famous hill station of Netarhat is located on the southern fringes of Betla National Park/Palamu Tiger Reserve.

Palamu Tiger Reserve:

- **Chero Dynasty Forts:** Within the Palamu Tiger Reserve, there are forts built by the Chero dynasty. The Cheros, also known as the Chyavana dynasty, ruled over regions encompassing Bihar, Uttar Pradesh, and Jharkhand from the 12th to the 19th century.

MUSHROOMS



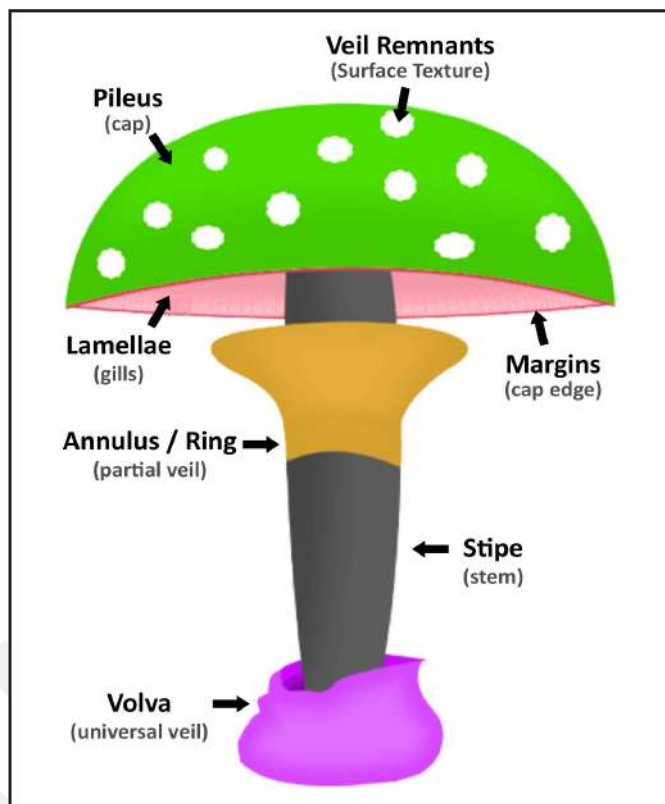
Why in the news?

A newly discovered mushroom species has been identified in the Western Ghats by researchers.

About Mushrooms

- Mushrooms, also known as toadstools, are fleshy and spore-bearing fruiting bodies of **fungi**. They are typically found above ground, growing on soil or their food source.
- The word '**toadstool**' is commonly used to describe fungi considered **toxic**, whereas "**mushroom**" is typically used to categorise fungi that are **safe to eat**.
- They **lack chlorophyll** and, unlike plants, **do not engage in photosynthesis**.

- Instead, they derive nutrients through the **decomposition of organic matter** or by **forming symbiotic relationships with plants**, particularly through mycorrhizal fungi.



Morphology of Mushrooms:

- The standard mushroom morphology includes a stem (stipe), a cap (pileus), and gills (lamellae) on the underside of the cap.
- These gills produce microscopic spores, aiding the fungus's spread across the ground or surrounding surface.

Nutritional Profile:

- Mushrooms offer several nutritional benefits. They are low in calories and fat and a good source of protein, fibre, vitamins and minerals.
- They contain essential nutrients such as B vitamins (riboflavin, niacin, and pantothenic acid) and minerals (selenium, potassium, and copper).
- Mushrooms also contain various beneficial compounds, including antioxidants and anti-inflammatory compounds.

- These compounds may help to protect against chronic diseases such as heart disease, cancer, and Alzheimer's disease.
- Certain mushroom species, like **shiitake mushrooms**, are also known for their potential health benefits.

Medicinal Properties:

- Certain mushrooms have been used in traditional medicine for their potential medicinal properties.
- For example, reishi mushrooms (*Ganoderma lucidum*) are believed to boost the immune system and have anti-inflammatory properties.
- Lion's mane mushrooms (*Hericium erinaceus*) may enhance brain function and promote nerve regeneration.

Some Interesting Facts:

- Some mushrooms **can glow in the dark**. This phenomenon is called bioluminescence, caused by a chemical reaction that produces light.
- The **largest living organism on Earth is a fungus**: It is a honey fungus in Oregon that covers an area of over 2,200 acres.
- There are an estimated **3.8 million species of fungi** worldwide, but only a small fraction of these have been identified and classified.
- Mushrooms play an essential role in the ecosystem by **breaking down dead organic matter**. This process of decomposition helps to recycle nutrients back into the soil.

DEBRIGARH WILDLIFE SANCTUARY



Why in the news?

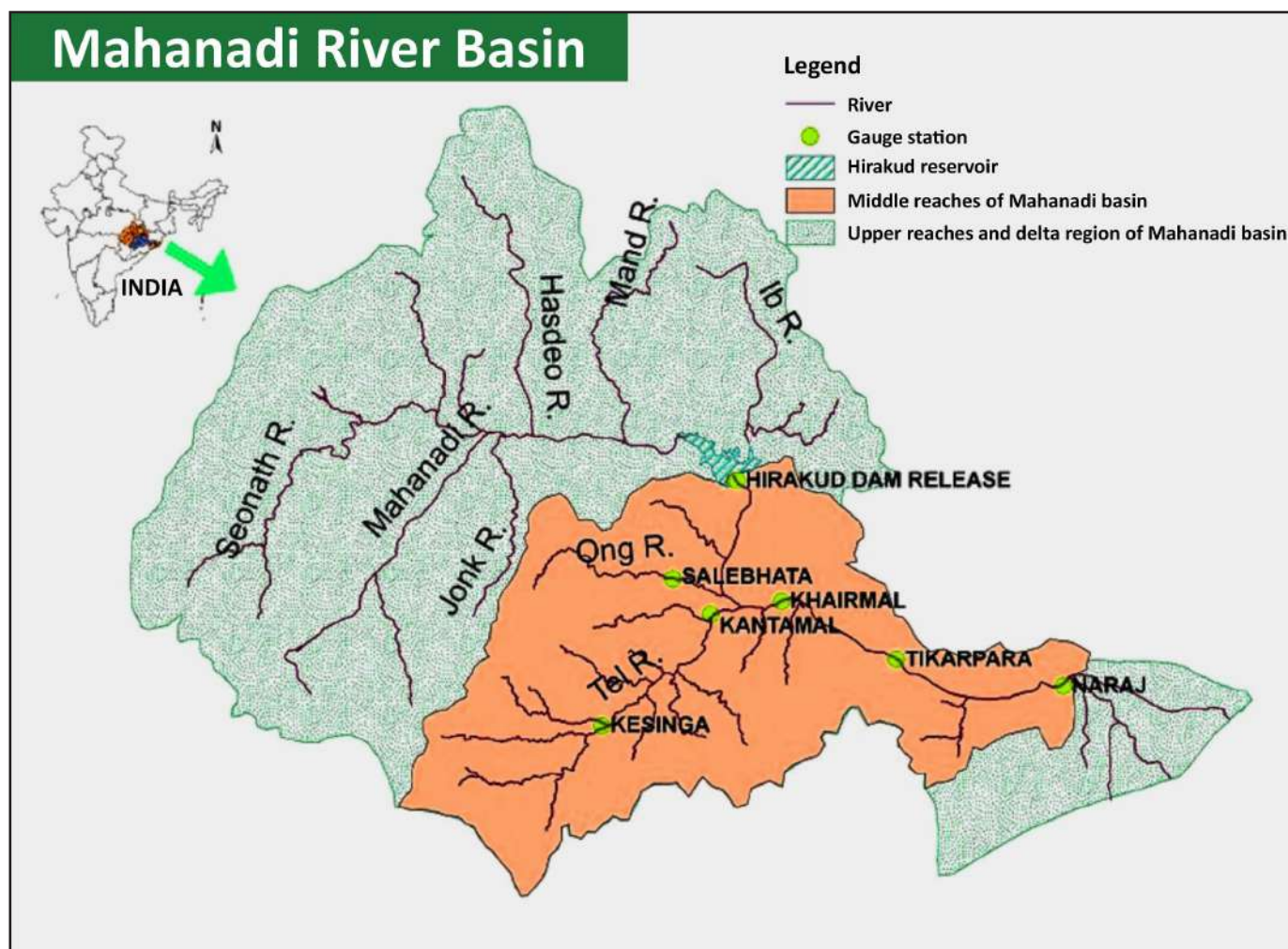
Wildlife enthusiasts have been thrilled by a rare sighting of a pair of elusive wild dogs, commonly known as Dholes, in the Debrigarh Wildlife Sanctuary located in Bargarh district, Odisha.

About Debrigarh Wildlife Sanctuary:

- **Location:** Debrigarh Wildlife Sanctuary, located in the state of Odisha, is situated near Mahanadi River's Hirakud Dam and its reservoir.
- **Establishment:** This wildlife sanctuary was declared as such in the year 1985.
- **Historical Significance:** Debrigarh Wildlife Sanctuary holds historical significance due to its association with the renowned freedom fighter, Veer Surendra Sai. During his resistance against British colonial rule, Veer Surendra Sai used "Barapathara," a location within the sanctuary, as his base of operations.
- **Fauna:** The sanctuary is known for its diverse wildlife, making it relatively easy to spot animals like Indian Bison, Wild Boars, and Sambhar.
- **Flora:** The sanctuary features a dry deciduous forest that attracts a wide variety of bird species, particularly during the winter months.

Key Facts about Dhole (Wild Dogs):

- **Distribution:** Dholes, also known as wild dogs, are found in the forests of central, south, and southeast Asia. They inhabit a vast range, from as far north as Siberia to as far south as some Malaysian islands and as far west as the Indian peninsula. In India, they are clustered in three primary regions: the Western and Eastern Ghats, the central Indian landscape, and North East India. The Western and Eastern Ghats are particularly strongholds for dhole populations.
- **Habitat:** Dholes can be found in various habitats, including dense jungles, steppes, mountains, scrub forests, and pine forests.
- **Conservation Status:**
 - IUCN: Endangered
 - CITES: Appendix II
 - The Wildlife Protection Act 1972: Schedule II



Key Points about Mahanadi River:

- **Overview:** The Mahanadi River system is the third largest river system in peninsular India, following the Godavari and Krishna rivers. It holds the distinction of being the largest river in the state of Odisha.
- **Catchment Area:** The river's catchment area extends across multiple states, including Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand, and Maharashtra.
- **Geographic Boundaries:** The basin of the Mahanadi River is demarcated by geographical features, including the Central India hills to the north, the Eastern Ghats to the south and east, and the Maikala range to the west.
- **Source:** The Mahanadi River originates near Sihawa, close to Raipur in the state of Chhattisgarh, to the south of Amarkantak.
- **Major Tributaries:** The river is fed by several significant tributaries, including the Seonath, Hasdeo, Mand, and Ib, joining from the left side, and the Ong, Tel, and Jonk, joining from the right.
- **Mahanadi River Dispute:** In 2018, the Central Government established the Mahanadi Water Disputes Tribunal to address issues related to the river's water usage and allocation.
- **Major Dams/Projects:** Notable dams and projects on the Mahanadi River include the Hiraikud Dam, which is the longest dam in India, as well as the Ravishankar Sagar, Dudhawa Reservoir, Sondur Reservoir, Hasdeo Bango, and Tandula projects.
- **Urban Centers:** Within the basin of the Mahanadi River, three significant urban centers are Raipur, Durg, and Cuttack.

- **Industries:** The Mahanadi basin is conducive to industrial development due to its rich mineral resources and ample power resources. Industries in the region encompass iron and steel plants in Bhilai, aluminum factories in Hirakud and Korba, a paper mill near Cuttack, a cement factory in Sundargarh, and other agro-based sectors such as sugar and textile mills. Additionally, the basin supports coal, iron, and manganese mining activities.

DUDHWA TIGER RESERVE

Why in the news?

In response to the growing human-elephant conflict around the Katarniaghat wildlife sanctuary in Uttar Pradesh's Dudhwa Tiger Reserve, forest officials have introduced the 'gajamitra' initiative.

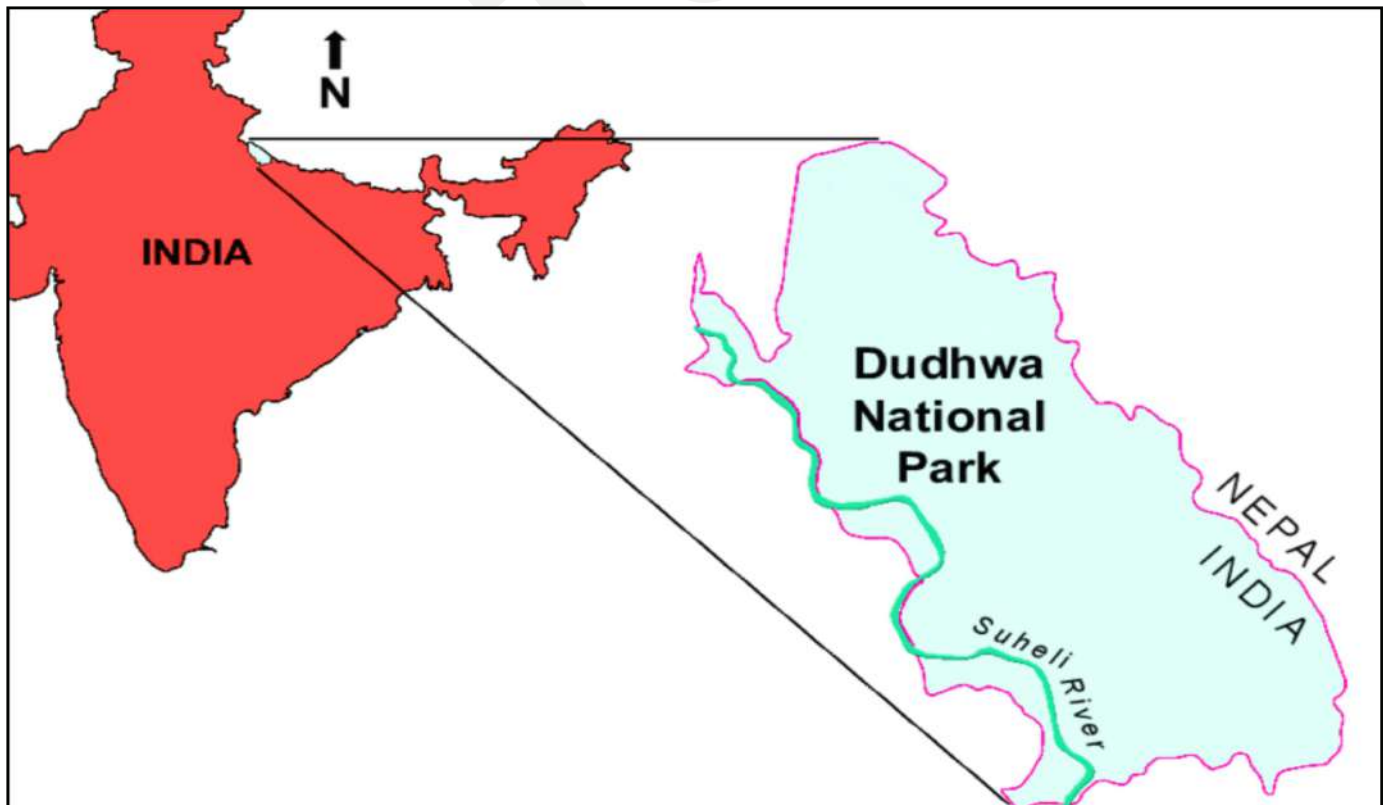
Dudhwa Tiger Reserve

Dudhwa Tiger Reserve, situated on the Indo-Nepal border within the Lakhimpur-Kheri district of Uttar

Pradesh, is a remarkable haven for wildlife and biodiversity. Established in 1988, it comprises Dudhwa National Park, along with two adjacent sanctuaries, Kishanpur and Katarniaghat. This reserve covers an extensive area of 1,284 square kilometers and is characterized by its unique Tarai-Bhabar habitat, nestled within the upper Gangetic Plains Biogeographic province.

About Dudhwa Tiger Reserve:

- **Geographic Location:** Dudhwa Tiger Reserve is strategically located along the India-Nepal border, offering a diverse range of habitats for various wildlife species.
- **Constituent Areas:** The reserve encompasses Dudhwa National Park, Kishanpur Wildlife Sanctuary, and Katarniaghat Wildlife Sanctuary, creating a substantial protected area for flora and fauna.
- **Ecosystem Variety:** Dudhwa Tiger Reserve boasts a rich and diverse ecosystem, with the presence of several rivers and distinct habitats.
- **River Systems:** The reserve is blessed with the



flow of significant rivers. The Sharda River meanders by Kishanpur Wildlife Sanctuary, while the Geruwa River gracefully flows through Katarniaghat Wildlife Sanctuary. Within Dudhwa National Park, the Suheli and Mohana streams contribute to its unique ecosystem, eventually joining the Ghagra River as vital tributaries.

- **Flora:** The reserve is characterized by the North Indian Moist Deciduous type of vegetation. It is home to some of the finest Sal forests (*Shorea robusta*) in India, along with extensive tracts of moist grasslands. These lush green landscapes are integral to the region's ecological balance.
- **Fauna:** Dudhwa Tiger Reserve is renowned for its impressive array of rare and endangered species. The reserve provides a safe haven for tigers, leopards, leopard cats, sloth bears, one-horned rhinoceroses, hispid hares, elephants, black deer, swamp deer, and many other remarkable creatures. This diverse wildlife population contributes to the reserve's conservation significance and the overall biodiversity of the region.

GREEN CRACKERS

Why in the news?

The Supreme Court has specified that its directive, prohibiting the utilization of barium and other prohibited chemicals in firecrackers, is applicable nationwide and extends beyond the confines of the National Capital Region.

- **Definition and Characteristics:** Green crackers, as defined by the CSIR-National Environmental Engineering Research Institute (CSIR NEERI), are characterized by a smaller shell size, absence of ash, and additives like dust suppressants. These modifications aim to reduce emissions, particularly particulate matter, contributing to environmental health.
- **Barium-Free Composition:** Distinguished by the absence of barium compounds, green crackers deviate from conventional counterparts known

for their distinctive green color. Barium, a metal oxide in traditional firecrackers, is a known air pollutant and noise contributor.

- **Emission Reduction Benefits:** Burning green crackers results in water vapor emission, diminishing the release of dust. Compared to conventional firecrackers, green counterparts reduce particulate matter (PM) emissions by an impressive 30%.
- **Noise Reduction Measures:** Green firecrackers exhibit sound levels between 110 and 125 decibels, in stark contrast to the approximately 160 decibels produced by conventional firecrackers. This makes green crackers nearly 30% less noisy, contributing to noise pollution mitigation.
- **Identification Criteria:** Recognition of green crackers is facilitated by the distinct green logo of CSIR-NEERI and PESO, along with a Quick Response (QR) code.

Varieties of Green Crackers:

- **SWAS (Safe Water Releaser):**
 - Releases water vapor to minimize dust emission.
 - 30% reduction in particulate matter.
 - Free of Sulphur and potassium nitrate.
- **STAR (Safe Thermite Cracker):**
 - No potassium nitrate or Sulphur content.
 - Lower particulate matter emission.
 - Reduced sound intensity.
- **SAFAL:**
 - Minimal aluminum usage, increased magnesium content.
 - Lower noise production compared to traditional firecrackers.

Legal Framework and Supreme Court Directives:

- In 2021, the Supreme Court issued directions to prevent the use of banned chemicals in firecrackers before Diwali.

- The court clarified that the ban was specific to firecrackers containing barium salts.
- Green crackers received approval as per the 2018 directives.
- In 2023, the Supreme Court extended firecracker restrictions beyond Delhi-NCR to all states, emphasizing the need for nationwide measures to control air and noise pollution.



BIOFLUORESCENCE



Why in the news?

New research has suggested that fluorescence, a phenomenon where certain animals can emit striking and vibrant light, is quite common in mammals.

Biofluorescence

- Fluorescence is the process by which a substance absorbs light of one wavelength and emits light of a longer wavelength.
- Biofluorescence is the emission of light by living organisms when they absorb light of a higher energy wavelength and emit it at a lower energy wavelength. This process is similar to fluorescence, but it occurs in living organisms.

How Does Fluorescence Work In Animals?

- Fluorescence is caused by **fluorescent molecules**

in the animal's body. These molecules can be found in various tissues, including skin, fur, feathers, and bones.

- When a fluorescent molecule **absorbs light of a certain wavelength**, it becomes **excited**. When the molecule returns to its **ground state**, it **releases the excess energy as light of a longer wavelength**.
- The colour of the light emitted depends on the type of fluorescent molecule and the wavelength of light that it absorbs. For example, many fluorescent animals emit green light, but some can emit blue, red, or even yellow light.

Bioluminescence

- Bioluminescence is the production of light by a living organism without generating heat. It is a form of chemiluminescence, where chemical energy is converted into light.
- This happens when an enzyme called luciferase reacts with a substrate called luciferin. The luciferin molecule becomes excited and releases its energy through light.
- The main difference between bioluminescence and biofluorescence is the source of light.
 - In bioluminescence, the light is produced by a chemical reaction within the organism.
 - In fluorescence, the light is produced by the absorption of light from an external source.
- Most bioluminescent life forms inhabit the ocean, encompassing various marine species like fish, bacteria, and jellyfish. Nevertheless, certain bioluminescent creatures, such as **fireflies** and fungi, can also be found on land.

Why do Animals Fluoresce?

Scientists are still learning about the functions of fluorescence in animals. However, it is thought to have a variety of purposes, including:

- **Communication:** Some animals use fluorescence to communicate with each other. For example, some fish use fluorescent signals to

attract mates or warn of rivals.

- **Camouflage:** Fluorescence can also be used for camouflage. For example, some corals fluoresce to blend in with their surroundings and avoid predators.
- **Sunscreen:** Fluorescence can also act as a sunscreen. For example, some animals fluoresce to absorb harmful UV radiation.
- **Prey attraction:** Some animals use fluorescence to attract prey. For example, some anglerfish have fluorescent lures that they use to attract smaller fish.

Examples of Fluorescent Animals:

- **Invertebrates:** Coral, jellyfish, sea anemones, scorpions, spiders
- **Reptiles:** Chameleons, geckos, iguanas
- **Amphibians:** Frogs, toads
- **Fish:** Anglerfish, clownfish, parrotfish, scorpionfish
- **Birds:** Toucans, puffins, parrots
- **Mammals:** Opossums, wombats, flying squirrels

Fluorescence in Mammals:

- Fluorescence in mammals was thought to be rare until recently. However, new research has shown that fluorescence is quite common in mammals.
- For example, a 2023 study found that over 90% of the mammal species studied were fluorescent in some way.

CENTRAL POLLUTION CONTROL BOARD (CPCB)



Why in the news?

The state-owned Indian Oil Corporation (IOC) and Bharat Petroleum Corporation Ltd (BPCL) have been penalized by the Central Pollution Control Board (CPCB) for failing to install pollu-

tion control equipment at their petrol stations. In the respective stock exchange filings, IOC faces a fine of Rs 1 crore, while BPCL incurs a penalty of Rs 2 crore.

About Central Pollution Control Board (CPCB):

The Central Pollution Control Board (CPCB) is a legally established organization, founded in 1974 under the Water (Prevention and Control of Pollution) Act, 1974. Additionally, the CPCB was also entrusted with powers and responsibilities under the Air (Prevention and Control of Pollution) Act, 1981.

Key Functions:

- **Policy Advice:** CPCB plays a crucial role in advising the Central Government on matters concerning the prevention and control of water and air pollution, with the overarching aim of enhancing air quality.
- **National Programs:** The CPCB designs and oversees the implementation of nationwide programs aimed at preventing, controlling, or reducing water and air pollution.
- **State Board Coordination:** It serves as a coordinating body for the activities of State Pollution Control Boards and resolves disputes between them.
- **Technical Guidance:** The CPCB provides technical guidance and assistance to State Boards, conducts and sponsors research and investigations related to water and air pollution, and strategies for their mitigation.
- **Public Awareness:** The CPCB conducts comprehensive mass awareness programs through mass media to educate and engage the public in efforts to combat water and air pollution.
- **Data Collection and Dissemination:** The organization collects, compiles, and publishes technical and statistical data related to water and air pollution and effective prevention and control measures. It also creates manuals, codes, and guidelines for sewage and effluent treatment and air quality improvement.
- **Environmental Standards:** In consultation with

concerned State Governments, the CPCB establishes, modifies, or abolishes standards for water and air quality.

- **Prescribed Functions:** The CPCB carries out any other functions as prescribed by the Government of India in the context of environmental protection and pollution control.

Powers of the Central Pollution Control Board (CPCB)

- **Directive Authority:** Under Section 18 of the Water (Prevention & Control of Pollution) Act, the CPCB has the power to issue directives to State Pollution Control Boards (SPCBs). If any of these directives are not adhered to, the CPCB has the authority to assume the responsibilities of a State Pollution Control Board.
- **Regulatory Control:** According to Section 33A of the Water (Prevention & Control of Pollution) Act, the CPCB is empowered to issue directives that may restrict, close, or regulate specific activities, businesses, or processes. It can also regulate the supply of power, freshwater, or other services, if necessary to control pollution.

Vapor Recovery System:

A vapor recovery system is designed to eliminate harmful vapor and liquid contaminants from crude products, enhancing their purity and preventing the release of toxic pollutants into the environment. This process is particularly important in industries dealing with chemical processing, as it helps recover unwanted vapors from storage units, ensuring the safety and purity of chemicals for further use and transportation.

Components of a Typical Vapor Recovery Unit (VRU):

- **Gas Compressor:** The VRU features a gas compressor responsible for compressing and recovering the vapor-laden air or gases from the storage units.
- **Scrubber:** A scrubber is employed to clean and remove impurities from the recovered vapor, improving its quality and environmental safety.
- **Variable Frequency Drives (VFDs):** VFDs are uti-

lized to control and adjust the speed of the gas compressor, optimizing the efficiency of the vapor recovery process.

- **Switching Device:** This component helps in controlling the start-up and shutdown of the VRU and its associated equipment, ensuring safe and effective vapor recovery.

CITES



Why in the news?

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has taken a positive step towards assisting red sandalwood-growing farmers in India to enhance their export potential. India has been removed from the Review of Significant Trade (RST) for Red Sanders, a list previously designated due to the reporting of numerous instances of red sandalwood smuggling in the past. This removal signals a potential boost for farmers, opening opportunities for increased earnings through export activities.

About CITES:

- CITES, established in 1973 and enacted in 1975, is a pivotal international agreement among governments.
- Its primary goal is to prevent international trade from jeopardizing the survival of wild animals and plants.

Membership and Regulation:

- CITES boasts 184 member parties, overseeing the trade of over 38,000 species globally.
- While legally binding on member nations, CITES doesn't replace national laws; instead, it complements them.

Categorization of Protected Species:

- Species are categorized into three appendices, each offering varying levels of protection.
- Appendix I: Includes species on the brink of ex-

tinction, prohibiting commercial trade.

- Appendix II: Covers species not currently endangered but subject to potential threats, allowing regulated trade with permits.
- Appendix III: Features species for which a country seeks assistance in controlling international trade; trade is regulated through permits and certificates.

CITES Conference of the Parties (COP):

- Representatives convene every two to three years to assess progress and adjust lists of protected species.
- COP discussions guide international conservation efforts and trade regulations.

Administration and Location:

- The CITES Secretariat is administered by the United Nations Environment Programme (UNEP).
- Headquartered in Geneva, Switzerland, it serves as a hub for coordinating global conservation initiatives.

Law Enforcement Collaboration:

- CITES facilitates collaboration among law enforcement officers from wildlife authorities, national parks, customs, and police agencies.
- Joint efforts aim to combat wildlife crime, particularly targeting iconic species like elephants and rhinos.

Appendix III and Domestic Regulations:

- Countries can list species under their domestic regulations in Appendix III at any time.
- Trade in Appendix III species is regulated through CITES export permits and certificates of origin, issued by relevant countries.

Red Sanders (Red Sandalwood):

Species Profile:

- Scientific Name: *Pterocarpus santalinus*.

- Indigenous to India, Red Sanders is an endemic tree species.
- Geographical Range: Primarily confined to the Eastern Ghats, specifically within distinct forests in Andhra Pradesh.

Conservation Status:

- The International Union for Conservation of Nature (IUCN) classifies Red Sanders as 'Endangered' on its Red List.
- The IUCN Red List serves as a comprehensive inventory, categorizing flora and fauna based on their conservation status.

IUCN Red List Categories:

- The IUCN Red List classifies species on a spectrum from 'least concern' (abundant) to 'extinct' (completely vanished).
- Red Sanders falls under the 'Endangered' category, indicating a threatened status within the IUCN classification.

Utilization and Demand:

- Red Sanders is renowned for its vibrant hue and therapeutic properties.
- High demand prevails in Asia, notably in China and Japan.
- Utilized for cosmetics, medicinal products, furniture, woodcraft, and musical instruments.

PRELIMS QUESTIONS

Q1. Consider the following statements regarding tipping points:

1. Tipping points trigger substantial, but reversible changes in an environmental system.
2. A risk tipping point denotes when a socio-ecological system can no longer mitigate risks effectively.

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

Q2. Regarding wet-bulb temperature, consider the following statements:

1. Wet bulb temperature is the highest temperature to which air can be heated by the addition of water vapor at a constant pressure.
2. Wet bulb temperature represents the point beyond which humans can no longer tolerate high temperatures due to the combined effects of heat and humidity.

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

Q3. Consider the following statements regarding the Koel River:

1. The Koel River is the largest left bank tributary of the River Sone.
2. It originates in the Ranchi Plateau.
3. Notable tributaries of the North Koel River include the Auranga, Amanat, and Burha Rivers.

How many of the above statement/s is/are correct?

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

Q4. Consider the following statements about Betla National Park:

1. Betla National Park is situated in the state of Assam, India.
2. Betla National Park is renowned for its popula-

tion of Asiatic lions.

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

Q5. With reference to mushrooms, consider the following statements:

1. The 'toadstool' is commonly used to describe toxic fungi.
2. Mushrooms are low in calories, proteins and fats.
3. They have anti-cancer characteristics and can protect against chronic diseases such as heart disease.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 3 only
- (d) None

Q6. Consider the following statements:

1. Some mushrooms have medicinal properties.
2. Some mushrooms have psychoactive properties
3. Some mushrooms have insecticidal properties
4. Some mushrooms have bioluminescent properties.

How many of the above statements are correct? (UPSC CSE 2023 PYQ)

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q7. Which of the following statements regarding

Debrigarh Wildlife Sanctuary is accurate?

1. Debrigarh Wildlife Sanctuary is situated near the Brahmaputra River's Hirakud Dam.
2. Veer Surendra Sai, a famous freedom fighter, used the sanctuary as his base during his resistance against the British colonial rule.

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

Q8. Which of the following statements regarding the Mahanadi River and its features are correct?

1. The Mahanadi River's catchment area includes the states of Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand, and Maharashtra.
2. The Mahanadi River originates near Amarkantak in the state of Madhya Pradesh.
3. The Hirakud Dam is the longest dam in India and is built on the Mahanadi River.

How many of the above statement/s is/are correct?

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

Q9. Which of the following statements about Dudhwa Tiger Reserve is correct?

1. Dudhwa Tiger Reserve is situated solely within the Lakhimpur-Kheri district of Uttar Pradesh.
2. The reserve includes only Dudhwa National Park, with no adjacent sanctuaries.
3. Dudhwa Tiger Reserve is characterized by the Tarai-Bhabar habitat.

How many of the above statement/s is/are correct?

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

Q10. Consider the following statements regarding green crackers:

1. Green crackers, defined by CSIR-NEERI, aim to reduce emissions by incorporating larger shell sizes and additives.
2. The distinctive green color of traditional fire-crackers is attributed to the presence of barium compounds.
3. SWAS, a type of green cracker, releases Sulphur and potassium nitrate, contributing to a 30% reduction in particulate matter emissions.

How many of the above statement/s is/are correct?

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

Q11. With reference to Biofluorescence, consider the following statements:

- Fluorescence is the process by which a substance absorbs light of one wavelength and emits light of a shorter wavelength.
- Fluorescence is caused by fluorescent molecules in the animal's body.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q12. Consider the following:

1. Chameleons

2. Frogs
3. Parrotfish
4. Parrots

How many of the abovementioned animals show Biofluorescence ?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All Four

Q13. Consider the following statements regarding:

1. CPCB was established as a statutory body under the Environment (Protection) Act, 1986.
2. CPCB has the responsibility to address both water and air pollution under the respective Acts.

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

Q14. Regarding the Red Sanders (Red Sandalwood) recently seen in the news, consider the following statements:

1. Red Sanders, scientifically known as *Pterocarpus santalinus*, is primarily found in the Western Ghats region of India.
2. The International Union for Conservation of Nature (IUCN) classifies Red Sanders as 'Least Concern' on its Red List.

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

Q15. Regarding the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), consider the following statements:

1. CITES was established in 1975 with the primary goal of promoting international trade in wild animals and plants.
2. The CITES Secretariat, administered by the United Nations Environment Programme (UNEP), is located in Vienna, Austria.

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

ANSWERS

S. No.	Answer
1.	B
2.	B
3.	B
4.	D
5.	B
6.	D
7.	B
8.	C
9.	D
10.	D
11.	B
12.	D
13.	B
14.	D
15.	D

MAINS QUESTIONS

Q1. Environmental tipping points represent a critical juncture in the balance between human activi-

ties and the Earth's ecosystems. Elucidate.

Q2. Discuss the significance and impact of hydropower projects. Analyze the measures required to mitigate adverse effects and promote sustainable hydropower projects in the context of a country's energy strategy and environmental conservation.

Q3. Explain the significance of river drainage systems in shaping the physical and human geography of a region.

Q4. Discuss the significance of tiger reserves in India for the conservation of biodiversity and the protection of the tiger population. Analyze the key challenges and measures needed to ensure the long-term sustainability of tiger reserves in the

country.

Q5. Evaluate the role of green crackers in aligning with the court's objectives and contributing to environmental sustainability. Additionally, analyze the challenges and opportunities associated with implementing and enforcing the Supreme Court's directives on firecrackers.

Q6. Pollution is a pressing global concern, with far-reaching impacts on public health and the environment. Discuss the role of the Central Pollution Control Board (CPCB) in India as a regulatory authority in mitigating pollution.

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PRADHAN MANTRI GARIB KALYAN ANN YOJANA (PMGKAY) SCHEME



Why in the news?

The PM Garib Kalyan Ann Yojana (PMGKAY) scheme, originally set to conclude in December, has now been extended for an additional five years.

About PMGKAY

Pradhan Mantri Garib Kalyan Ann Yojana, is part of the broader Pradhan Mantri Garib Kalyan Package (PMGKP) designed to assist the economically disadvantaged in their battle against the challenges posed by Covid-19. This scheme offers crucial support through the following key points:

- **Additional Grain Allocation:** PM-GKAY seeks to provide each individual covered under the National Food Security Act 2013 with an extra 5 kilograms of grains, which can be either wheat or rice. This allocation is provided free of cost, in addition to the 5 kilograms of food grains already available at subsidized rates through the Public Distribution System (PDS).
- **Duration:** Initially introduced for a three-month period encompassing April, May, and June of 2020, PM-GKAY was aimed at benefiting 80 crore ration cardholders. However, recognizing the prolonged effects of the pandemic, it was subsequently extended until December 2023.
- **Nodal Ministry:** The Ministry of Finance is responsible for the implementation and administration of the PM-GKAY scheme.

- **Portability Feature:** The benefits of free rations offered under PM-GKAY are made accessible to beneficiaries through the concept of portability. This means that migrants and eligible individuals can avail these rations from nearly 5 lakh ration shops located across the country. This feature is facilitated by the One Nation One Ration Card (ONORC) plan, ensuring that individuals can access their entitled provisions conveniently, even when they are away from their registered place of residence.

Pradhan Mantri Garib Kalyan Anna Yojana

- **5 kg free food grains** to be provided to the poor till 2028
- Around **80 crore beneficiaries** to get free food grains
- Government stressed that it is important that the of the country have nutritional support



Positive Impacts:

- **Food Security:** The PMGKAY scheme ensures continued food security for vulnerable sections of society. It plays a crucial role in addressing the issue of hunger in the country by providing free food grains to approximately 80 crore beneficiaries.
- **Social Welfare:** This scheme serves as a vital social welfare program, offering essential food items at highly subsidized rates. It plays a critical role in alleviating poverty and malnutrition among underprivileged individuals.

Negative Impacts:

- **Economic Implications:** Sustaining the PMGKAY scheme may raise concerns about its long-term economic implications. The substantial cost of providing free food grains poses challenges in terms of budgetary allocation and fiscal pressure.
- **Dependency:** Continuous extension of free food distribution may potentially create a sense of dependency among certain sections of society, reducing their self-sufficiency and economic independence.
- **Highlights Economic Distress and Inequality:** The PMGKAY scheme reflects the prolonged financial struggles faced by a significant portion of the populace. It underscores the lack of substantial income growth in parallel with the rising prices of essential goods, signifying persistent economic distress and growing economic inequality across the country.

Way Ahead:

- **Empowerment Programs:** The government can initiate skill development and empowerment programs alongside the PMGKAY to facilitate the transition of beneficiaries towards self-sustainability.
- **Long-term Planning:** There should be a focus on initiatives for economic growth and job creation that can uplift the living standards of individuals, reducing their dependence on welfare schemes.

- **Monitoring and Evaluation:** Strong monitoring mechanisms should be implemented to ensure that the benefits of these welfare schemes are reaching the intended beneficiaries and making a positive impact.
- **Rationalization:** Periodic evaluations should be considered to rationalize the scheme, ensuring that it remains targeted, efficient, and caters to those who need it the most while preventing misuse or leakage of resources.

APAAR ID**Why in the news?**

The government has introduced a new student identification card called the **Automated Permanent Academic Account Registry (APAAR) ID** as part of the 'One Nation, One Student ID' program, which aligns with the recently implemented National Education Policy of 2020.

Automated Permanent Academic Account Registry ID

- **APAAR**, the Automated Permanent Academic Account Registry, introduces an exclusive **identification system for all Indian students from childhood**.
- Each student is allocated a **lifelong APAAR ID**, simplifying the monitoring of their educational journey from **pre-primary education to higher studies**.
- APAAR is a **portal to Digilocker**, a digital platform where students can securely preserve vital documents and achievements, including exam results and report cards.
- This digital repository facilitates easy access and utilisation of documents for future educational pursuits or employment.

Purpose of APAAR

- **Efficiency and Accessibility:** APAAR's core purpose is to enhance education by streamlining

processes and eliminating the need for physical document handling, aligning with the National Education Policy 2020.

- **Monitoring Educational Data:** APAAR facilitates positive change by enabling state governments to monitor educational metrics, equipping them with the resources needed to enhance their performance.
- **Anti-Fraud Measures:** APAAR safeguards against fraudulent and duplicate educational certificates, providing a singular, reliable reference point for educational institutions. Only authorised sources can deposit credits, ensuring record authenticity and integrity.

Working of APAAR ID

- **Unique ID:** Each person possesses a distinct APAAR ID linked to the **Academic Bank Credit (ABC)**, a digital repository storing educational credits.
- **Comprehensive Storage:** Students can securely preserve formal and informal certificates and achievements. Authorised institutions provide digital certification and storage.
- **Seamless Transfers:** When a student changes schools, sharing the APAAR ID instantly migrates all ABC data to the new institution, eliminating physical document and certificate transfers.

APAAR ID Registration Process

- **Data Input:** Students provide essential details like name, age, date of birth, gender, and a photograph.
- **Aadhar Verification:** Data is verified using the Aadhar number solely for matching name and date of birth; it isn't shared during registration.
- **Consent Option:** Students share their Aadhar number and demographic data with the Ministry of Education by signing a consent form.
- **Minors' Consent:** Parental consent is needed for minors, enabling the use of their Aadhar number for UIDAI authentication.
- **Voluntary Registration:** Registering for an

APAAR ID is voluntary, not mandatory.

Concerns Regarding APAAR

- **Privacy Apprehensions:** Parents and students express concerns about sharing their Aadhar details, fearing potential data leaks to external entities.
- **Data Control:** Students can discontinue sharing their data with the mentioned entities at any time, with data processing ceasing upon withdrawal of consent. However, previously processed personal data remains unaffected even if consent is revoked.
 - The government assures that information shared by students will remain confidential and won't be disclosed to third parties except for authorised educational entities and recruitment agencies.

BRU REFUGEES

Why in the news?

For the first time, Bru refugees will not vote in Mizoram elections since they have been permanently settled in Tripura through a Central government-sponsored program.

Bru Tribe

- The Brus, also known as Reangs, are an indigenous community primarily residing in Northeast India, notably in **Tripura, Mizoram, and Assam**.
- In Tripura, they hold the status of a **Particularly Vulnerable Tribal Group (PVTG)**, a designation by the government for tribes facing heightened vulnerability within the tribal community.
- The Brus speak the Reang dialect of the Kokborok language, which is locally referred to as Kau Bru.
- Their Hojagiri folk dance is well-known all over the world. 'Buisu' is the most famous festival of the Reang tribes.

Particularly Vulnerable Tribal Group (PVTG)

- PVTG is a classification designed to identify tribal communities with heightened vulnerability within the broader tribal population.
- These groups exhibit specific characteristics, including:
 - Pre-Agricultural Technology
 - Stagnant or Declining Population
 - Extremely Low Literacy
 - Subsistence Economy
- These communities often reside in remote areas with limited infrastructure and administrative support.
- As of 2011, there are 75 PVTGs dispersed across 18 states and one Union Territory in India.

Bru-Reang Refugee Crisis

- The crisis dates back to the late 1990s when violence and ethnic tensions between the Bru and the majority Mizos led to the displacement of thousands of Bru people from Mizoram state.
- The Bru-Reang Refugee Crisis has fueled since 1997, with over 40,000 Brus taking refuge in six camps in northern Tripura's Kanchanpur sub-division following ethnic violence in neighbouring Mizoram.
- These refugee camps were initially intended to be temporary, but due to the protracted nature of the crisis, the displaced population has remained in these camps for over two decades.

Rehabilitation of Brus

- In June 2018, leaders of the Bru camps agreed with the Centre and the two state governments to enable repatriation to Mizoram. However, many camp residents rejected the terms of the agreement, citing concerns about their safety in Mizoram.
- Subsequently, a **quadripartite agreement** was

inked in **January 2020**, involving the **Centre, the state governments of Tripura and Mizoram, and representatives of the Bru-Reang community**. This agreement was designed to **facilitate the permanent settlement of Bru refugees in Tripura**.

- According to the terms of this pact, each refugee family is entitled to receive a designated plot of land, a fixed deposit of Rs. 4 lakh, complimentary rations, and a monthly stipend of Rs. 5,000 for two years. Additionally, each family will receive Rs. 1.5 lakh for the construction of their houses.

STATE FOOD SAFETY INDEX (SFSI) 2023

Why in the news?

The State Food Safety Index (SFSI) for 2023 has been released by the Food Safety and Standards Authority of India (FSSAI).

State Food Safety Index (SFSI) 2023

- The aim behind the creation of the State Food Safety Index is to assess the performance of various states in relation to different aspects of food safety.
- This index is constructed based on five crucial parameters:
 - **Human Resources and Institutional Data**
 - **Compliance**
 - **Infrastructure and Surveillance for Food Testing**
 - **Training & Capacity Building**
 - **Consumer Empowerment**
- To ensure a fair comparison among similar entities, the states are classified into three categories: Large States, Small States, and Union Territories (UTs)
- Starting from 2019, the **Food Safety and Stan-**

Food Safety and Standards Authority of India (FSSAI) has been **annually releasing** the State Food Safety Index (SFSI) on **June 7, coinciding with World Food Safety Day**.

- Notably, the 2023 edition of the index introduced a new parameter called **‘Improvement in SFSI Rank,’** which measures the degree of improvement in each state’s ranking from the previous year.

Key Findings of SFSI 2023

- Kerala has claimed the top position in the index, with Punjab and Tamil Nadu following closely behind.
- In the category of smaller states, Goa has secured the first position for the fourth consecutive time, with Manipur and Sikkim trailing behind.
- Among the Union territories, Jammu and Kashmir, Delhi, and Chandigarh have secured the first, second, and third positions, respectively.
- 19 out of 20 large states recorded a drop in their 2023 scores from 2019, indicating a decline in food safety performance across the country.
- The worst drop was seen in Maharashtra, which scored 45 out of 100 in 2023 compared to 74 in 2019, followed by Bihar and Gujarat.
- The steepest fall in scores over five years was observed in the Food Testing Infrastructure parameter, where the average score for all large states dropped to 7 points out of 17 in 2023 from 13 points out of 20 in 2019.
- The only parameter that recorded significant improvement was Training and Capacity Building, where the average score improved to 5 points out of 8 in 2023 from 3.5 points out of 10 in 2019.



About FSSAI (Food Safety and Standards Authority of India)

Parent Act: Food Safety and Standards Act, 2006, the primary legislation governing food safety and standards in India.

Nodal Ministry: FSSAI falls under the jurisdiction of the Ministry of Health and Family Welfare in India.

Primary Aim:

- To ensure the availability of safe and wholesome food for human consumption.
- It does this by laying down science-based standards for articles of food and regulating their manufacture, storage, distribution, sale, and imports.

Functions:

- Establishing and laying down scientific and comprehensive food safety standards for various food products.
- Regulating and licensing food businesses, including manufacturers, processors, distributors, and retailers.
- Inspecting and monitoring food businesses for compliance with the food safety standards and guidelines.
- Providing suggestions to the government in framing the policies related to food safety.
- Protecting and promoting public health through the regulation and supervision of food safety.

POSHAN TRACKER

Why in the news?

The launch of the Poshan Tracker by the Indian government stands as the most extensive mobile phone-based nutrition monitoring system in the annals of global health.

Introduction:

- Poshan Tracker, the largest mobile phone-based

nutrition monitoring system globally, is revolutionizing nutrition monitoring in India.

- Unlike previous global examples, Poshan Tracker demonstrates universal uptake among Anganwadi workers, reaching nearly 3 million users across India.
- Central to Poshan 2.0 guidelines, this app aims to ensure transparency and accountability in nutrition service delivery.

POSHAN TRACKER APPLICATION

- Monitors AWC Infrastructure, Status, Issues raised by AWWs
- App provides a comprehensive dashboard that has ability to create and generate reports
- Real time attendance of beneficiaries and duty bearers
- Monitors nutritional Intakes, growth & health benefits being provided to Pregnant women, Lactating mothers, Children (0-6yrs) & Adolescent Girls & Boys (11-19 years)



Unprecedented Data Monitoring:

- Poshan Tracker offers real-time monitoring of over 50% of children under five in India, covering their height and weight measurements.
- Nearly 94% of beneficiaries have been Aadhar-verified.
- The app captures national, state, and district-level data on Anganwadi infrastructure, ration distribution, and nutritional outcomes.

Significance of Poshan Tracker:

- Acts as a real-time feedback loop for frontline workers to identify and address malnutrition in its early stages.
- Key modules include beneficiary registration, growth monitoring, and migration tracking.
- The app targets beneficiaries facing acute malnutrition and tracks the effectiveness of ICDS services.

Challenges:

- Poshan Tracker's effectiveness in improving data accuracy and timeliness remains a question.
- Decision-makers may not highly value older data.

Accuracy and Potential:

- A study from Indonesia shows a mobile app can significantly improve growth monitoring accuracy.
- Poshan Tracker uses WHO growth charts to automatically calculate nutritional outcomes, reducing manual errors.
- Granular data addresses malnutrition variability and provides timely information for decision-makers.

Way Forward:

- User-friendliness improvements and feedback from overburdened Anganwadi workers are crucial.

- Ongoing skill-building and technical assistance are needed for system sustainability.
- Poshan Tracker's data must catalyze actionable outcomes in delivering essential services to address malnutrition.

PM-PVTG DEVELOPMENT MISSION

Why in the news?

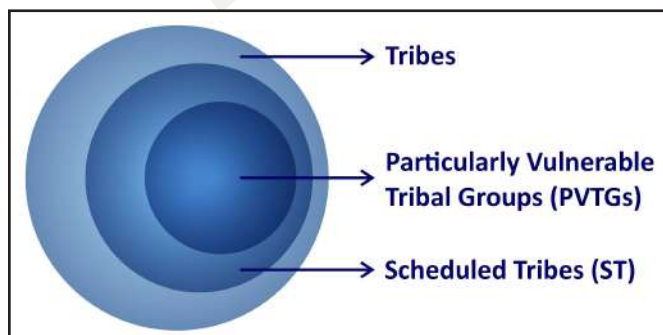
The Prime Minister has recently inaugurated the PM PVTG Development Mission, targeting the most vulnerable segment within the Tribal Population.

About PM-PVTG Development Mission:

The PM-PVTG Development Mission program, with an allocated budget of Rs.15,000 crore for Scheduled Tribes in the Union Budget, aims to uplift the socio-economic status of Particularly Vulnerable Tribal Groups (PVTGs). This initiative focuses on providing essential facilities and improving living conditions for these marginalized communities.

Key Parameters of the Mission:

- Provision of basic facilities such as safe housing.
- Ensuring access to clean drinking water and sanitation.
- Advancing education, health, and nutrition for PVTGs.
- Enhancing accessibility to roads in settlements inhabited by backward scheduled tribes.



Particularly Vulnerable Tribal Groups (PVTGs):

- **Identification and Designation:**
 - Designated by the Ministry of Home Affairs, PVTGs include 75 tribal groups spread across 18 states and the Union Territory of Andaman and Nicobar Islands.
 - Introduced in 1975, the concept of PVTGs identifies the most vulnerable among tribal communities.
 - The list expanded in 1993, encompassing 23 additional groups, resulting in the current total of 75.
- **Regional Concentration:**
 - Odisha has the highest concentration of PVTGs, with 13 groups identified.
 - Andhra Pradesh follows closely with 12 designated PVTGs.

Classification Criteria for PVTGs:

Particularly Vulnerable Tribal Groups (PVTGs) are classified based on specific criteria:

- **Population Dynamics:** PVTGs exhibit declining or stagnant populations, emphasizing their vulnerability.
- **Education Levels:** These groups have low levels of literacy, indicating a need for educational interventions.
- **Technological Development:** PVTGs often maintain pre-agricultural levels of technology, requiring developmental support.
- **Economic Status:** Economic backwardness is a crucial criterion for the classification of PVTGs, reflecting the need for targeted socio-economic initiatives.

The PM-PVTG Development Mission focuses on addressing the unique challenges faced by Particularly Vulnerable Tribal Groups, aiming to uplift their socio-economic status through targeted interventions and provisions of essential services.

PRELIMS QUESTIONS

Q1. Which of the following statements regarding the Pradhan Mantri Garib Kalyan Ann Yojana (PM-GKAY) is/are correct?

1. It provides additional free food grains to beneficiaries covered under the National Food Security Act (NFSA) in addition to the regular subsidized grains provided through the Public Distribution System (PDS).
2. The Ministry of Rural Development is the nodal ministry responsible for the implementation of PM-GKAY.
3. The Scheme can also be availed by migrants not living in their home state.

How many of the above statement/s is/are correct?

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

Q2. With reference to the APAAR ID , consider the following statements:

1. APAAR stands for Automated Performance Academic Account Registry.
2. Under APAAR, each student is allocated a life-long ID monitoring their educational journey from pre-primary education to higher studies.

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

Q3. Consider the following statements:

1. APAAR ID aligns with the recently implemented National Education Policy of 2020.

2. APAAR enables governments to monitor educational metrics to undertake policy interventions.
3. APAAR ID will be linked to the Academic Bank Credit (ABC)
4. Registering for the ID is mandatory for new students.

How many of the abovementioned statements are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All Four

Q4. With reference to Bru Tribe, consider the following statements:

1. They are an indigenous tribe primarily residing in Tripura, Mizoram, and Assam.
2. Bihu is the most famous festival of the Reang tribes.
3. The recent agreement facilitated the permanent settlement of Bru refugees in Mizoram.

Which of the statements given above is/are NOT correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q5. Consider the following:

1. Post- Agricultural Technology
2. Stagnant or Increasing Population
3. Extremely Low Literacy
4. Subsistence Economy

How many of the characteristics of a Particularly Vulnerable Tribal Group (PVTG) are mentioned

above?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q6. With reference to State Food Safety Index (SFSI) 2023, consider the following statements:

1. The SFSI aims to assess the performance of various states in relation to different aspects of food safety.
2. It is being released by the Food and Drug Administration every year.
3. The recent 2023 report indicates an overall improvement in food safety performance across the country

Which of the statements given above is/are NOT correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Q7. Consider the following statements with reference to Food Safety and Standards Authority of India:

1. Food Safety and Standards Authority of India is a statutory body.
2. FSSAI falls under the jurisdiction of the Department of Food and Public Distribution.
3. FSSAI lays down science-based standards for articles of food and regulating their manufacture, storage, distribution, sale, and imports.

How many of the abovementioned statements are correct ?

- (a) Only one
- (b) Only two

(c) All three

(d) None

Q8. Consider the following statements regarding Poshan Tracker:

1. Poshan Tracker is the largest mobile phone-based nutrition monitoring system globally.
2. The app captures real-time data on the height and weight measurements

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

Q9. With reference to Particularly Vulnerable Tribal Groups (PVTGs), consider the following statements:

1. PVTGs are designated by the Ministry of Home Affairs
2. Odisha has the highest concentration of PVTGs

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

ANSWERS

S. No.	Answers
1.	B
2.	B
3.	C
4.	B
5.	B
6.	B

7.	B
8.	C
9.	B

MAINS QUESTIONS

Q1. Food security is a critical aspect of India's socio-economic development. How has the National Food Security Act contributed to addressing the issue of food security? Analyze the role of food distribution systems, public policies, and their impact on food security in India.

Q2. Discuss the significance of the APAAR (Automated Permanent Academic Account Registry) ID system in the context of the education sector.

Q3. Elaborate on the FSSAI's functions and its pivotal

role in regulating and supervising food safety in India.

Q4. Poshan Tracker, an innovative technology platform, has been introduced to monitor the progress of India's National Nutrition Mission (POSHAN Abhiyaan). Discuss the significance of Poshan Tracker in addressing the issue of malnutrition in India. What are the key features and challenges associated with its implementation, and how can it contribute to achieving better nutritional outcomes?

Q5. Discuss the criteria for their identification and designation of the PVTGs. Evaluate the challenges faced by PVTGs and suggest policy measures to address their socio-economic vulnerabilities.



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SECURITY

LIGHT COMBAT HELICOPTER PRACHAND

Why in the news?

The Indian Army's Light Combat Helicopter (LCH), known as 'Prachand', successfully conducted rocket firing on Monday, both during the day and at night.



- Developed by Hindustan Aeronautics Limited (HAL)
- Modern stealth features and strong armor protection
- Fitted with Shakti Engine (co-developed by HAL and France's Safran)
- Received operational clearance in 2017
- Maximum speed of 288 kmph and combat radius of 500 km
- Can land and take off at altitudes of 5,000 meters

Light Combat Helicopter Prachand

- The LCH Prachand is India's first indigenous **multi-role combat** helicopter. It is designed and manufactured by **Hindustan Aeronautics Limited (HAL)**.

- The helicopter features modern stealth characteristics, strong armour protection, and powerful night attack capabilities. It has advanced navigation systems, close combat guns, and effective air-to-air missiles.
- The LCH Prachand is **suitable for high-altitude operations** and accurate strikes on targets located at elevated positions.
- It holds the distinction of being the **only attack helicopter** in the world capable of **landing and taking off at altitudes of 5,000 meters** while carrying significant weapons and fuel payload.
- It is powered by the **Shakti Engine**, which is a collaborative effort between HAL and France's Safran, ensuring top-notch performance.
- LCH Prachand received operational clearance in 2017, highlighting its readiness for military service.
- **Performance Specifications**
 - Capable of flying at a maximum speed of 288 kmph.
 - With a combat radius of 500 km, it can reach a service ceiling of 21,000 feet.
- The LCH Prachand can carry out an array of activities, including Combat Search and Rescue (CSAR), Destruction of Enemy Air Defence (DEAD), operations against slow-moving aircraft and Remotely Piloted Aircraft (RPAs), high-altitude bunker busting operations, counter-insurgency missions in jungle and urban environments, and providing crucial support to ground forces.
- It will be **equipped with Helina missiles**, with

the Air Force version named Dhruvastra.

The LCH Prachand stands as a remarkable achievement in Indian aeronautics, designed to meet the diverse needs of the armed forces across a range of challenging terrains and operational scenarios. Its cutting-edge features, indigenous development, and versatile capabilities make it a key asset in India's military arsenal.

THEATERISATION OF ARMED FORCES



Why in the news?

The Armed Forces have finalised integrated theatre commands, with proposed theatre commanders under a national defence committee led by the Defense Minister.

What is Theaterisation?

- Theaterisation of armed forces is the **integration of the army, air force, and navy under a single unified command structure for a specific geographical area.**
- This means that all the assets and resources of the three services in that area are placed under **a single commander** responsible for planning and executing all military operations.
- A theatre of operations is a specific area in which military operations are conducted. The term can also refer to adapting military forces to the specific challenges and requirements of a particular operational environment, such as a desert, jungle, or urban setting.

Examples of Theaterisation in Practice:

- **The United States has several theatre commands**, including the United States Central Command (CENTCOM), responsible for the Middle East and Central Asia, and the United States Indo-Pacific Command (INDOPACOM), responsible for the Indo-Pacific region.
- **China has five theater commands:** Northern Theater Command, Southern Theater Com-

mand, Eastern Theater Command, Western Theater Command, and Central Theater Command.

Advantages of Theaterisation

- **Improved coordination and cooperation between the three services:** Theaterisation helps to break down silos and improve coordination and cooperation between the three services. This is essential for effective joint operations.
- **More efficient use of resources:** Theaterisation allows for a more efficient use of resources, as assets can be allocated to where they are most needed, regardless of which service they belong to.
- **Faster and more flexible decision-making:** Theaterisation allows for faster and more flexible decision-making, as the commander is not constrained by the different bureaucratic procedures of the three services.
- **Enhanced deterrence and warfighting capabilities:** Theaterisation can enhance deterrence and warfighting capabilities by creating a more integrated and cohesive force. This can make it more difficult for adversaries to assess and exploit vulnerabilities.
- **Increased synergy and efficiency:** Theaterisation can lead to increased synergy and efficiency in operations, planning, and training. This can result in a more effective and efficient armed force.

Plans for Theater Commands in India

- The Kargil Review Committee, the Naresh Chandra Committee, and the Group of Ministers all called for significant changes in India's higher defence management.
- The **Shekatkar Committee** was instrumental in proposing the establishment of the Chief of Defence Staff (CDS) role and the creation of theatre commands.
- According to the reports, the initial phase will involve setting up three theatre commands:
 - To address security challenges along the Pa-

kistan border located at Jaipur

- To counter potential threats from **China, situated at Lucknow**
- A **maritime theatre command** to protect against maritime threats beyond India's coastal borders located at **Karwar**.

Implementation Challenges

- **Absence of National Security Strategy (NSS):** Critics, including retired military professionals, highlight the need for a coherent NSS before implementing theatre commands to provide a clear policy blueprint and objectives for their functioning.
- **Inter-Service Disagreements:** The three forces hold differing views regarding the scope, structure, and command authority within theatre commands.
- **Resource Transfer:** Ambiguity surrounds the allocation of war-fighting equipment and the transfer of weapons, platforms, and resources between theatre commands.
- **Inadequate Training:** The nation lags in establishing an adequate curriculum framework for military personnel to serve in theatre commands effectively.

India's Current Command Structure

- Currently, India maintains 17 single-service commands and two tri-service commands. The 17 single-service commands are categorised as follows:
- **Army: 7 Commands**
 - Northern Command
 - Western Command
 - Southern Command
 - Eastern Command
 - Central Command
 - South-Western Command
 - Training Command

● Navy: 3 Commands

- Western Naval Command
- Eastern Naval Command
- Southern Naval Command

● Air Force: 5 Commands

- Western Air Command
- Eastern Air Command
- Central Air Command
- Southern Air Command
- Training Command

- **Andaman and Nicobar Command (ANC):** a tri-service command that is responsible for the security of the Andaman and Nicobar Islands.

- **Strategic Forces Command (SFC):** a nuclear command responsible for operating and maintaining India's nuclear weapons.

The process of theaterisation necessitates the careful consideration of crucial aspects, such as the **establishment of a well-defined hierarchical chain of command**, the delineation of **relationships between service headquarters and theatre commands**, and the provision of comprehensive **training** to accommodate the diverse roles arising from theaterization. Theaterisation is a significant change for armed forces, but it is a necessary step to ensure that they can meet the challenges of the modern world.

PRELIMS QUESTION

Q1. With reference LCH Prachanda, consider the following statements:

1. It is India's first indigenous multi-role combat fighter aircraft.
2. It is designed and manufactured by Hindustan Aeronautics Limited (HAL).

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q2. Consider the following statements with reference to LCH Prachanda:

1. LCH Prachand is suitable for high-altitude operations.
2. It is the only attack helicopter in the world capable of landing and taking off at altitudes of 8,500 meters while carrying significant weapons and fuel payload.
3. The Shakti Engine that powers it is developed entirely indigenously in the country.

How many of the abovementioned statements are correct?

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

Q3. With reference to Theaterisation, consider the following statements:

1. A theatre refers to a geographical area where military operations are conducted.
2. The Second Administrative Reforms Commission recommended the creation of theatre commands in the Armed Forces.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None

Q4. Consider the following:

1. Andaman and Nicobar Command

2. Strategic Forces Command
3. Training Command
4. Central Command

How many of the abovementioned factors are tri-service commands of the Armed Forces?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All Four

ANSWERS

S. No.	Answers
1.	B
2.	A
3.	A
4.	B

MAINS QUESTIONS

Q1. Discuss the concept of theaterization in military strategy. What are the primary objectives and advantages of implementing theaterization in the armed forces?

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BY AKSHAY GURU
(IfoS PCS Interview 2018)



UNESCO'S CREATIVE CITIES NETWORK (UCCN)



Why in the news?

Kozhikode, Gwalior added to Unesco 'creative cities' for literature, music

About UNESCO'S Creative Cities Network (UCCN):

- The UNESCO Creative Cities Network (UCCN) was established in 2004 to promote collaboration among cities that prioritize creativity as a strategic element for sustainable urban development. This global network includes 350 cities spanning over a hundred countries.
- The UCCN aligns with UNESCO's goals of promoting cultural diversity and strengthening urban resilience in the face of challenges like climate change, inequality, and rapid urbanization.

AIM And Objectives:

- The UCCN focuses on harnessing the creative, social, and economic potential of cultural industries to drive urban development.
- It encourages a culture of creativity in urban planning and seeks innovative solutions to urban challenges.
- Member cities are encouraged to recognize creativity as a fundamental aspect of urban development, forging partnerships that involve the public and private sectors as well as civil society.
- The UCCN aims to create hubs of creativity and innovation, expanding opportunities for profes-

sionals in the cultural sector and contributing to the UN's sustainable development agenda.



Areas of Action:

- The objectives of the UCCN are implemented at both the city level and the international level. This involves sharing experiences, knowledge, and best practices. Activities include professional and artistic exchange programs, research, and evaluations of the experiences of creative cities.

Annual Conference of Network Cities:

- A highlight of the UCCN is the annual conference, where mayors and other stakeholders from network cities gather. This event provides a unique opportunity to strengthen ties between creative cities worldwide.
- The previous conference was held in Santos, Brazil, while the most recent was in Istanbul. The upcoming conference is scheduled for July 2024 in Braga, Portugal.

Responsibilities of Member Cities:

- Member cities within the UCCN are required to submit a Membership Monitoring Report every

four years. These reports demonstrate their commitment to implementing the UCCN Mission Statement. They present an action plan for the following four years, highlighting achievements, lessons learned, and the impact of the UCCN designation.

Indian Cities in the Network:

- Several Indian cities have joined the UNESCO Creative Cities Network, including Kozhikode, Gwalior, Varanasi (music), Srinagar (crafts and folk arts), and Chennai (music).
- These cities are actively contributing to the network's objectives and leveraging their cultural richness for sustainable urban development.

Kozhikode's Literary Tradition:

- Kozhikode, a city in India, has a rich literary heritage, with notable contributions such as the first Malayalam novel, Kundalatha, authored by Appu Nedungadi in 1887.
- The city has produced renowned writers and cultural figures, as well as professionals in the film and theater industry, strengthening its position within the UNESCO Creative Cities Network.

UNESCO

- UNESCO, which stands for the United Nations Educational, Scientific and Cultural Organization, is a specialized agency within the United Nations (UN) system.
- Established with a constitution that came into force in 1946, UNESCO has played a pivotal role in promoting international collaboration in the field of education, science, and culture.
- Headquartered in Paris, France, it operates under the purview of the United Nations Economic and Social Council.
- UNESCO's fundamental goals revolve around fostering peace, security, sustainable development, and intercultural dialogue.

Key Areas of Focus:

- Education: UNESCO places a strong emphasis

on advocating for quality education accessible to all. Its efforts encompass facilitating access to education, enhancing teacher training, and promoting global citizenship.

- Natural Sciences: The organization supports scientific research and the application of science to address pressing global challenges such as climate change, biodiversity loss, and sustainable development.
- Culture: UNESCO is dedicated to safeguarding and promoting cultural heritage, both tangible and intangible, including monuments, sites, traditions, and languages. It also champions cultural diversity and intercultural dialogue.
- Communication and Information: UNESCO actively promotes freedom of expression, the development of media, and access to information. It strives to create a free, independent, and pluralistic media environment.
- World Heritage Sites: One of UNESCO's notable responsibilities is the designation and maintenance of a list of World Heritage Sites. These sites are recognized as having outstanding universal value and are protected for future generations.

Key UNESCO Reports:

- Global Education Monitoring Report
- The United Nations World Water Development Report
- World Trends in Freedom of Expression and Media Development
- Global Ocean Science Report

BIRSA MUNDA: THE TRIBAL FREEDOM FIGHTER

Why in the news?

The Birth Anniversary of Birsa Munda was celebrated on 15th November as Janjatiya Gaurav Divas across the country.



Early Life and Background:

- Birsa Munda, born on 15 November 1875 in the village of Ulihatu in the Ranchi district of Bengal Presidency (now in Khunti district of Jharkhand), was a significant Indian tribal independence activist and folk hero belonging to the Munda tribe.
- Birsa Munda received his education in Salga under the guidance of his teacher, Jaipal Nag. He later converted to Christianity to join the German Mission School, but he dropped out when he learned that the British aimed to convert tribals to Christianity through education.
- After leaving school, he founded a faith called Birsait and attracted members of the Munda community to join this faith, which posed a challenge to British activities.
- The Birsaits openly declared that the real enemies were the British, not Christian Mundas.

Tribal Mass Movement:

- Munda spearheaded an Indian tribal mass movement, rallying the tribals against forceful land grabbing orchestrated by the British government.
- This exploitative practice aimed to transform the tribals into bonded labourers, pushing them into abject poverty.

- **Struggle for Land Rights:** Recognising the importance of land ownership, Birsa Munda inspired his people to resist the British government's attempts to seize their lands and assert their rights.
- **Ulgulan – The Revolt:** In 1894, as a reaction to the introduction of the Zamindari system and Permanent settlement in tribal areas, Birsa Munda declared “Ulgulan” or revolt against the British and the Dikus (outsiders).
- Known as ‘Dharti Abba,’ Birsa Munda stressed the importance of tribal people studying their religion while propagating principles of the Hindu religion.

Legacy and Impact:

- Despite his young age, Birsa Munda's struggle against the exploitation and discrimination of tribals had a lasting impact.
- The Chotanagpur Tenancy Act, passed in 1908, was a significant blow against the British government, restricting land transfer from tribal people to non-tribals.

Recognition and Commemoration:

- In recognition of his influence on the national movement, the state of Jharkhand was created on Birsa Munda's birth anniversary in 2000.
- Additionally, November 15, commemorated as the birth anniversary of Birsa Munda, was declared ‘Janjatiya Gaurav Divas’ by the Central Government in 2021.

JEHOVAH'S WITNESSES

Why in the news?

About Jehovah's Witnesses:

- Jehovah's Witnesses are a Christian sect with distinct beliefs, differing from mainstream Christianity, particularly in their rejection of the Holy Trinity.

Origins:

- The origins of Jehovah's Witnesses can be traced back to a Bible Student movement initiated in the 1870s by American pastor Charles Taze Russell.
- Today, the Governing Body of Jehovah's Witnesses is headquartered in Warwick, New York.

Aspect	Jehovah's Witnesses
STRUCTURE	
Clergy Class	They have no clergy class.
Financial Support	Elders, teachers, and missionaries are unsalaried. All activities are supported by anonymous donations. They do not tithe or collect money at their places of worship (Kingdom Halls).
Political Neutrality	They remain neutral with regard to politics and advocate peace, not participating in warfare.
Global Unity	They are globally united in their faith and Bible-based beliefs, with no social, ethnic, racial, or class divisions. They are not affiliated with any other religion, whether Catholic, Orthodox, or Protestant.
DOCTRINE	
Belief in God	They believe in one true God, whose name is Jehovah.
Belief in Jesus	They do not believe that Jesus Christ is Almighty God or in the Trinity doctrine. They follow the teachings of Jesus and honor him as the Son of God.
Religious Symbols	They do not venerate the cross, nor do they use idols in their worship.
Belief in Hell	They do not believe in a fiery hell where all bad people go after death.

Eternal Life Belief	They believe that God will bless obedient mankind with perfect everlasting life in an earthly paradise.
Christianity Claim	Jehovah's Witnesses believe that they have successfully reestablished first-century Christianity, the form of Christianity that Jesus' apostles practiced.

Practices and Festivals:

- Jehovah's Witnesses do not celebrate Christmas or Easter, as they view these festivals as influenced by Pagan traditions.
- Paganism refers to a group of contemporary religions rooted in reverence for nature and often linked to indigenous traditions.

Evangelical Work:

- Jehovah's Witnesses are known for their evangelical work, emphasizing the importance of belief in Jesus Christ and the study of the Bible.
- They engage in door-to-door outreach to spread what they refer to as "The Truth."

End-Times Belief:

- They believe that the end of the world is imminent and anticipate the Kingdom of God replacing human governments to fulfill God's purpose for the earth.

Jehovah's Witnesses in India:

- Jehovah's Witnesses have had a presence in India since 1905.
- They established an office in Mumbai (formerly Bombay) in 1926 and obtained legal registration in 1978.

Supreme Court Verdict:

- A significant legal case involving Jehovah's Witnesses in India was Bijoe Emmanuel vs. State of Kerala. In 1986, the Supreme Court ruled in favor of three children from the sect who refused to sing the National Anthem at their school.

- The court held that compelling them to participate violated their fundamental right to freedom of religion under Article 25 of the Indian Constitution.

PRELIMS QUESTION

Q1. Which of the following statements regarding UNESCO's Creative Cities Network (UCCN) is/are correct?

1. UCCN was established to promote creativity as a strategic factor for sustainable urban development.
2. Member cities within UCCN are not required to submit periodic reports demonstrating their commitment to its mission.

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

Q2. Consider the following reports:

1. Global Education Monitoring Report
2. The United Nations World Water Development Report
3. World Trends in Freedom of Expression and Media Development
4. Global Ocean Science Report

How many of the above reports are published by UNESCO?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Q3. With reference to Birsa Munda, consider the following statements:

1. He founded a faith called Birsait, which attracted members of the Munda community.
2. Birsa Munda declared "Ulgulan" against the British with the help of the Dikus.

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

Q4. With reference to the history of India, "Ulgulan" or the Great Tumult is the description of which of the following events? (PYQ Civil Services Exam (Prelims) 2020)

- (a) The Revolt of 1857
- (b) The Mappila Rebellion of 1921
- (c) The Indigo Revolt of 1859 – 60
- (d) Birsa Munda's Revolt of 1899 – 1900

Q5. Which of the following statements about Jehovah's Witnesses is/are correct?

1. Jehovah's Witnesses originated in India in the 19th century.
2. They believe in the doctrine of the Holy Trinity.

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

Q6. Consider the following statements about Jehovah's Witnesses:

1. It is a sect of Judaism
2. They consider the Bible as their ultimate holy scripture.
3. They do not consider Jesus Christ as a God.

How many of the above statement/s is/are correct?

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

ANSWERS

S. No	Answers
1.	A
2.	D
3.	A

4.	D
5.	D
6.	B

MAINS QUESTIONS

Q1. Discuss the significance of UNESCO's Creative Cities Network (UCCN) in promoting sustainable urban development and cultural diversity. Provide examples of Indian cities in the network and their contributions to this global initiative.

Q2. Discuss the Munda Ulgulan movement led by Birsa Munda as a significant tribal uprising during the Indian independence struggle.



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