

# THE IAS GAZETTE

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TH EDITION



**50 YEARS OF  
PROJECT  
TIGER**

## Other topics

- State of World Population Report
- Information Technology
- Amendment Rules, 2023
- Sports Governance
- State of the Global Climate Report
- World Development Report 2023

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A MONTHLY PERIODICAL FOR ASPIRANTS OF UPSC EXAMINATION



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# 1. POLITY & GOVERNANCE

## 1.1 NATIONAL MEDICAL COMMISSION

### Context

- The Indian regulatory body for medical education and medical professionals, the **National Medical Council**, has for the first time issued a set of **guidelines specifying professional responsibilities of medical students, teachers and institutions.**

### Highlights of the guidelines

- The document has explained the code of conduct for teachers and students while studying/working, relationship between a teacher and student, expectations from the two (personal attributes and conduct) and their collective responsibility to the community.

### Responsibilities of a Medical student

- A medical student is expected to be **diligent about their study and research work**, be responsible for their personal growth and stay away from substance abuse while seeking help in case of addiction.
- It said that they **should dress modestly**, approach appropriate authorities for grievance redressal, seek professional help in case they feel overwhelmed.
- They should **freely interact with all their colleagues** without discriminating anyone.
- Students were also advised to work towards ensuring an **ethical doctor-patient relationship and maintain public trust in the health system.**
- They were warned about the possible professional hazards associated with the indiscriminate use of social media.

### Norms for teachers

- Education is a moral enterprise and teachers should **ensure that students are competent, caring and empathetic and ethical in their practice.**
- It also notes that teachers are role models and they should also **follow boundaries with their students, even during interactions on social media.**
- Medical institutions have been told not to give false information during inspections and accreditation processes, pressurise teachers to give false information and apply pressure on teachers to show preference to individual candidates.

### About NMC

- The National Medical Commission (NMC) has been **constituted by an act of Parliament known as National Medical Commission Act, 2019.**
- The Board of Governors in **supersession of Medical Council of India** constituted under section 3A of the Indian Medical Council Act, 1956 stands dissolved thereafter.

### Constitution of the National Medical Commission

- State governments will establish State Medical Councils at the state level.
- The NMC will consist of **25 members, appointed by the central government.**
- A Search Committee will recommend names to the central government for the post of Chairperson, and the part time members.
- The **Search Committee will consist of seven members** including the Cabinet Secretary and five experts nominated by the central government (of which three will have experience in the medical field).
- **Members of the NMC will include:**
  - the Chairperson (must be a medical practitioner)
  - Presidents of the Under-Graduate and Post-Graduate Medical Education Boards
  - the Director General of Health Services, Directorate General of Health Services

- the Director General, Indian Council of Medical Research, and
- five members (part-time) to be elected by the registered medical practitioners from amongst themselves from states and union territories for a period of two years.

### Functions

- Framing **policies for regulating medical institutions and medical professionals.**
- Assessing the **requirements of healthcare-related human resources and infrastructure.**
- **Ensuring compliance by the State Medical Councils** of the regulations.
- Framing guidelines for **determination of fees for up to 50% of the seats in private medical institutions and deemed universities.**

### Medical Advisory Council

- Central government will constitute a Medical Advisory Council.
- The Council will be the primary platform through which the states/union territories can put forth their views and concerns before the NMC.
- Further, the Council will advise the NMC on measures to determine and maintain minimum standards of medical education.

### Autonomous boards

- Each autonomous board will consist of a President and four members, appointed by the central government. These boards are:
  - **Under-Graduate Medical Education Board (UGMEB) and the Post-Graduate Medical Education Board (PGMEB):** These Boards will be responsible for formulating standards, curriculum, guidelines, and granting recognition to medical qualifications at the undergraduate and post graduate levels respectively.
  - **The Medical Assessment and Rating Board (MARB):** MARB will have the power to levy monetary penalties on medical institutions which fail to maintain the minimum standards as laid down by the UGMEB and PGMEB. The MARB will also grant permission for establishing a new medical college, starting any postgraduate course, or increasing the number of seats.
  - **The Ethics and Medical Registration Board:** This Board will maintain a National Register of all licensed medical practitioners, and regulate professional conduct.

### Community health providers

- NMC may grant a **limited license to certain mid-level practitioners** connected with the modern medical profession to practice medicine.
- These mid-level practitioners may prescribe specified medicines in primary and preventive healthcare. In any other cases, these practitioners may only prescribe medicines under the supervision of a registered medical practitioner.

### Entrance examinations

- There will be a uniform **National Eligibility-cum-Entrance Test** for admission to under-graduate and post-graduate super-speciality medical education in all medical institutions.
- A common final year undergraduate examination called the **National Exit Test** for the students graduating from medical institutions to obtain the license for practice.

## 1.2 LOKPAL

### **Context**

- According to an official report, Lokpal closes **68% of corruption charges against officers without taking action.**

## Highlights of the report

- The Lokpal, the country's first anti-corruption agency established four years ago to examine accusations against public servants, including the Prime Minister, stated to a parliamentary panel that **"it has not prosecuted even a single individual accused of the graft to date."**
- The anti-corruption agency received 8,703 complaints in 2019-20, of which 5,981 were disposed of.
- Lokpal issued an order stating that complaints received by the office that was not in the correct format would no longer be considered at any level.

## Background

- In India, the concept of constitutional ombudsman was first proposed by the then law minister Ashok Kumar Sen in parliament in the early 1960s.
- The term Lokpal and Lokayukta were coined by Dr. L. M. Singhvi.
- **When the Lokpal and Lokayuktas Act 2013 were enacted, at that time, 21 states and 1 Union Territory (Delhi) already had a functional institution of Lokayuktas.**
- The institution of lokayukta was 1st established in Maharashtra in 1971.

<p><b>A long-drawn debate</b></p> <p>A short history of the Lokpal Bill from the 1960s to the present</p>		<p><b>2005:</b> The second ARC recommended that a Lokpal be established without delay</p>
	<p><b>1963:</b> The idea of an Ombudsman first came up in Parliament during a discussion on budget allocation for the Law Ministry</p>	<p>State level – to probe complaints against public functionaries, including MPs</p>
<p><b>1966:</b> The First Administrative Reforms Commission recommended two independent authorities – one at the Centre and one at the</p>	<p><b>1968:</b> Lokpal Bill introduced in Parliament, but was not passed. Eight attempts were made till 2011 to pass the Bill, but all in vain</p>	<p><b>2016:</b> Lok Sabha agreed to amend the 2013 Act</p>
<p><b>2002:</b> The Constitution review commission headed by M.N. Venkatachaliah recommended appointment of the Lokpal and the Lokayuktas. It also recommended that the Prime Minister be kept out of the Lokpal's ambit</p>	<p><b>2017:</b> The SC on April 27 clarified that the Lokpal appointment process need not be stalled merely due to the absence of the Leader of the Opposition, who is a member of the Lokpal selection committee as per the 2013 Act</p>	

## Features of Lokpal and Lokayuktas Act 2013

- It established the institution of the Lokpal at the Center and the Lokayukta at State level.

<b>LOKAYUKTA</b>	<ul style="list-style-type: none"> <li>• Mandatory for States to set up Lokayukta through enactment of a law within a period of 365 days from the date of enactment of this Act.</li> <li>• The Act provides freedom to the states to decide about the structure and functioning of the Lokayukta in their respective states.</li> </ul>
<b>COMPOSITION</b>	<ul style="list-style-type: none"> <li>• Lokpal is headed by the Chief Justice of India or a retired judge.</li> <li>• The Lokpal consists of a Chairperson with a maximum of 8 members of which 50% shall be judicial members. 50% of the members of the Lokpal shall come from amongst the SCs, the STs, the OBCs, minorities and women.</li> <li>• The Chairperson and the members of Lokpal shall be selected through a Selection Committee consisting of: The Prime Minister, Lok Sabha speaker, Opposition leader in the Lok Sabha, Chief Justice of India or a sitting Supreme Court Judge nominated by the Chief Justice of India, An eminent jurist to be nominated by the President of India.</li> </ul>
<b>JURISDICTION</b>	<ul style="list-style-type: none"> <li>• The Lokpal Jurisdictions cover the Prime Minister, Ministers, Members of Parliament and Groups A, B, C and D officers and officials of the Central Government.</li> <li>• Institutions which are financed fully or partly by Government are under the jurisdiction of Lokpal, but institutions aided by Government are excluded.</li> <li>• Receiving donations of more than ₹10 lakhs a year from foreign sources under Foreign Contribution Regulation Act (FCRA) are brought under the jurisdiction of Lokpal.</li> <li>• The Lokpal will have administrative power over any investigating agency, including the CBI, for cases transferred to them by the Lokpal.</li> </ul>
<b>TIMELINE</b>	<ul style="list-style-type: none"> <li>• For preliminary enquiry, it is three months extendable by three months. For investigation, it is six months which may be extended by six months at a time.</li> </ul>
<b>PUNISHMENT</b>	<ul style="list-style-type: none"> <li>• It enhances maximum punishment under the Prevention of Corruption Act from seven years to ten years.</li> <li>• It included the provisions for attachment of property of public servants gained by corrupt means, even while the prosecution is pending.</li> </ul>



### Concluding remarks

- K Hanumanthaiya rightly said that conceptually, the ombudsman as an establishment must be free from the executive, legislature and judiciary.
- Historically, this Scandinavian invention performed well in some small countries, while it failed in several other nations including India.
- Other bodies like the Human Rights Commissions and the Commissions for Women in India also have a poor track record.
- There is a need to revamp the system perceptually, structurally and functionally.
- For the Lokpal to become an independent body, there is a need to evolve a select committee that is equally independent.
- It is necessary to ensure that its recommendations have tremendous moral force and popular acceptability.

## 1.3 CENTRAL BUREAU OF INVESTIGATION

### Context

- The Prime Minister of India inaugurated the Diamond Jubilee Celebrations of the Central Bureau of Investigation (CBI) in New Delhi.

### About CBI

- It is the premier investigating agency of India.
- It operates under the jurisdiction of the Ministry of Personnel, Public Grievances and Pensions.
- The Central Bureau of Investigation is **not a statutory or constitutional body** but derives its roots from the **Delhi Special Police Establishment Act, 1946**.

### Report of Parliamentary Standing Committee

Recommended that there is a need to enact a new law and define the status, functions, and powers of the CBI.

Important to lay down safeguards to ensure objectivity and impartiality in its functioning.

Delhi Special Police Establishment Act governing the federal probe agency has many limitations.

### Composition

- There shall be a director of CBI who heads the department.
- Government shall appoint the Director based on report given by a three-member committee (PM, leader of the opposition party in Lok Sabha, and CJ of India).
- There are joint directors, deputy inspector general, superintendent of police.
- The union government also appoints persons for the rank of SP and above to work as subordinate officers with the Commissioners and Director.

### Functions

- It was **originally set up in 1965** to investigate bribery and governmental corruption.
- It also receives expanded jurisdiction to investigate breaches of central laws enforceable by the Government of India, multi-state organized crime, or international cases.
- The CBI has attracted numerous controversies and criticisms due to various reports of irregular practises, excessive political influence, and a poor conviction rate.
- CBI is **exempted from the provisions of the Right to Information Act**.
- CBI is India's officially designated single point of contact for **liaison with Interpol**.

### Criticism of CBI

- In the year 2013 Supreme Court called CBI a “**caged parrot**” as there was clear evidence for the coal blocks allocation case which hints that the government was using the agency for their own benefits.
- The CBI **cannot step into an investigation without the consent of state governments and the centre cannot extend the agency's jurisdiction to any state without permission either**.
- The opposition feels **unfairly targeted by the ruling party** that uses CBI.

- Referring to the **pendency of over 1,000 cases with the CBI, 66 of them for more than five years**, a parliamentary committee said **delayed justice is no justice at all**.
- CBI is **not under the purview of Right to Information Act, 2005**.
- **Shortfall in budget allocation** "adversely affects" the agency's ability to invest in training, research, equipment and other support structures.
- The department-related Parliamentary Standing Committee said that a **total of 1,709 posts are vacant** in the CBI, against its sanctioned strength of 7,295.
- Withdrawal of general consent to the CBI is becoming a potent political tool.
- Its **functions are based merely on a government resolution** that draws its powers from the Delhi Special Police Establishment Act, which makes the CBI the premier investigative arm of the Union government.
- CBI is said to be **not very efficient and is called partial** when it comes to dealing with crimes committed by higher ranked officers or politicians.

### Suggestions to reform the CBI

- The Supreme Court had suggested in the **Jain hawala case** that the **CBI should be placed under the supervision of the central vigilance commission**.
- A high level governing board should be set up for the CBI in which, **apart from the prime minister and union home minister, four-five chief ministers of states may be appointed, by turn, to give broad guidelines and keep a watch over the working of the CBI**.
- The CBI should be **bifurcated into an anti-corruption body and a national crime bureau**.
- CBI should be **brought fully under the Right to Information law**.
- CBI should **make efforts to reduce its dependence on deputation and strive to recruit permanent staff** at least upto the rank of Deputy Superintendent of Police.
- An annual social audit of the working of CBI should be carried out.
- After retirement, the director of CBI **should be made ineligible for any appointment by the Central and state governments**.
- **2<sup>nd</sup> ARC** is of the view that a new law should be enacted to govern the working of the CBI.
- It is also possible to consider granting the CBI and other federal investigative agencies the kind of autonomy that the Comptroller and Auditor General enjoys—he is only accountable to Parliament.
- CBI needs to maintain a case management system, which would be a **centralised database containing details of cases registered with it and the progress made at their disposal**.

#### CBI

What is at stake is more than just the image and credibility of the CBI. India's image as a country committed to the rule of law itself needs to be refurbished nationally and internationally.

## 1.4 INDIA JUSTICE REPORT (IJR) 2022

### Context

- Tata Trusts launched the third edition of the India Justice Report (IJR).

### About the report

<b>Partners</b>	Tata Trusts launched the India Justice Report (IJR) in 2019, and this is the third edition. The Centre for Social Justice, Common Cause, Commonwealth Human Rights Initiative, DAKSH, TISS-Prayas, Vidhi Institute for Law Policy, and How India Lives, IJR's data partner, are among the foundation's partners.
<b>Parameters</b>	This study relies on <b>overall statistics from four pillars of justice delivery: Police, Judiciary, Prisons and Legal aid</b> . Each pillar was examined through the lens of finances, human resources, workload,

	diversity, infrastructure, and trends in comparison to the state's own proclaimed norms and benchmarks.
<b>Third edition</b>	<p>Focusses on the comparisons and tracks the rise and fall in each state's structural and financial capacity to deliver justice.</p> <p>The ranking is based on quantitative measurements of budgets, human resources, infrastructure, workload, diversity across police, judiciary, prisons and legal aid in 18 large and medium sized states (population of over 1 crore) and seven small states.</p> <p>This third IJR also separately assesses the capacity of the 25 State Human Rights Commissions.</p>

## Highlights of the Report

### Shortage of Judges

- As of December 2022, the High Courts were operating with just 778 judges, despite a sanctioned strength of 1,108.
- The subordinate courts were reported to be operating with 19,288 judges, despite a sanctioned strength of 24,631 judges.

### Increasing Pendency

- In most states, the number of cases pending per judge has increased over the last five years, although the sanctioned strength has stayed relatively constant.
- At the High Court level, Uttar Pradesh has the longest average pendency; cases are pending for an average of 11.34 years, while West Bengal has a pendency of 9.9 years. Tripura has the lowest average High Court pendency (1 year), Sikkim (1.9 years), and Meghalaya (2.1 years).

### Case Clearance Rate (CCR)

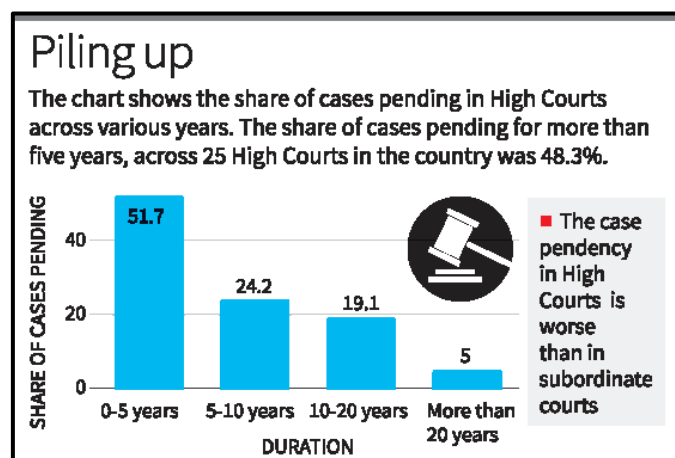
- A typical statistic used to estimate the pace at which cases are disposed of is the case clearing rate (CCR) or the number of cases disposed of in a year divided by the number of cases filed in that year.
- According to the report, the High Courts are solving more cases than the subordinate courts. Between 2018-19 and 2022, the national average in High Courts increased by six percentage points (88.5% to 94.6%) but decreased by 3.6 points (93% to 89.4%) in Subordinate courts.
- The High Courts of Kerala and Odisha have the highest case clearance rates – 156% and 131%, respectively – while the High Courts of Rajasthan (65%) and Bombay (72%), respectively, have the lowest.

### Court Halls

- Nationwide, the number of courtrooms looks to be sufficient to accommodate the number of real judges. But it stressed that if all of the sanctioned positions are filled, space will become an issue.
- According to the study, there were 21,014 court halls in August 2022 for the 24,631 judges' posts sanctioned at the time, a 14.7% shortage.
- There were no court halls for the 86, 82, and 35 serving judges in Delhi, West Bengal, and Uttarakhand, respectively.
- If every state appointed each of its sanctioned judges, there would only be four states and four union territories with enough court buildings. There would be a greater than 25% gap in 11 states/union territories, according to the report.

### Performance of States

- Large States:** Karnataka has moved to first place among the 18 major and mid-sized states with populations of over one crore in



terms of justice delivery, which includes the police, judiciary, prisons, and legal aid.

- Tamil Nadu came in second place, with Telangana coming in third. Uttar Pradesh is ranked 18th, which is the lowest.
- **Small States:** Sikkim led the list of Seven Small States having a population of less than one crore, followed by Arunachal Pradesh. Goa ranked seventh, the lowest.

## 1.5 THE ROLE OF PARLIAMENTARY COMMITTEES

### Context

- Due to the vast volume of information and the scope of operations that the Indian Parliament is needed to carry out, it is not possible to debate all matters on the floor of the House. **Parliamentary committees are formed to explore deeper into public issues and develop an expert opinion.**

### Parliamentary Committees

#### About

- They are constituted by the House or appointed by the Speaker or Chairman to assist the Parliament in a variety of ways, including scrutinising bills, evaluating budgets, overseeing ministries, and studying particular problems.
- Parliamentary committees aid in improving the quality of legislation, increasing executive responsibility, and strengthening the role of the opposition.

#### Evolution

- The origin of parliamentary committees **can be traced back to the British Parliament**, which influenced the Indian Constitution.
- The committees in India were formed by the Constituent Assembly to deal with various aspects of drafting the Constitution, such as citizenship, tribal and excluded areas, and fundamental rights.
- However, a **structured committee system was only established in 1993** when 17 department-related standing committees (DRSCs) were created to examine the demands for grants of various ministries and departments.
- Apart from DRSCs, **other standing committees deal with financial matters**, such as the Public Accounts Committee, the Estimates Committee, and the Committee on Public Undertakings.
- The role and importance of parliamentary committees have increased over time as they **provide a platform for detailed discussion, expert consultation, public participation, and consensus building on various matters of national interest.**

### Types of Parliamentary Committees

#### About

- There are **two types of parliamentary committees: Standing or permanent committees and ad hoc committees.**
- **Standing committees** are constituted for a fixed term and work continuously. **Ad hoc committees** are created for a specific purpose and are dissolved after they complete their task.
- **There are 6 categories of standing committees:** financial committees, departmental standing committees, committees to inquire, committees to scrutinize and control, committees relating to the day-to-day business of the House, and house-keeping or service committees.
- **There are 2 categories of ad hoc committees:** inquiry committees and advisory committees.

<b>Financial committees</b>	<ul style="list-style-type: none"> <li>● They are responsible for examining the financial affairs of the government and ensuring that public money is spent wisely and effectively.</li> </ul>
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	<ul style="list-style-type: none"> <li>• There are 3 financial committees: Public Accounts Committee, Estimates Committee, and Committee on Public Undertakings.</li> <li>• The Public Accounts Committee (PAC) examines the accounts of the Union government and reports on any irregularities or misappropriation of funds.</li> <li>• The Estimates Committee examines the estimates of expenditure of various ministries and departments and suggests economies in public expenditure.</li> <li>• The Committee on Public Undertakings (COPU) examines the working and performance of public sector enterprises and their compliance with statutory obligations.</li> </ul>	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Public Account Committees</th> <th>Estimate Committees</th> <th>Committee on Public Undertaking</th> </tr> </thead> <tbody> <tr> <td>Origin</td> <td>1921 – Government of India Act 1919</td> <td>1921</td> <td>1964</td> </tr> <tr> <td>Composition</td> <td>22 members (15 Lok Sabha and 7 from Rajya Sabha)</td> <td>30 (All from Lok Sabha)</td> <td>22 members (15 Lok Sabha and 7 from Rajya Sabha)</td> </tr> <tr> <td>Selection of members</td> <td colspan="3">According to the principle of proportional representation by means of the single transferable vote. Thus all parties get due representation in it. A Minister cannot be elected as a member.</td> </tr> <tr> <td>Tenure</td> <td colspan="3">1(one) year</td> </tr> <tr> <td>Chairman</td> <td>Appointed by Speaker from amongst its members. Generally from Opposition Party.</td> <td>Appointed by Speaker</td> <td>Appointed by Speaker. Member is from Lok Sabha only.</td> </tr> </tbody> </table>	Parameter	Public Account Committees	Estimate Committees	Committee on Public Undertaking	Origin	1921 – Government of India Act 1919	1921	1964	Composition	22 members (15 Lok Sabha and 7 from Rajya Sabha)	30 (All from Lok Sabha)	22 members (15 Lok Sabha and 7 from Rajya Sabha)	Selection of members	According to the principle of proportional representation by means of the single transferable vote. Thus all parties get due representation in it. A Minister cannot be elected as a member.			Tenure	1(one) year			Chairman	Appointed by Speaker from amongst its members. Generally from Opposition Party.	Appointed by Speaker	Appointed by Speaker. Member is from Lok Sabha only.
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<p><u>Departmental standing committees</u></p>	<ul style="list-style-type: none"> <li>• They are responsible for examining the demands for grants, bills, annual reports, and long-term policies of various ministries and departments.</li> <li>• There are 24 departmental standing committees covering all the ministries and departments of the central government.</li> </ul>																									
<p><u>Committees to inquire</u></p>	<ul style="list-style-type: none"> <li>• They are responsible for investigating specific matters of public interest or allegations of wrongdoing.</li> <li>• There are 4 committees to inquire: Committee on Petitions, Committee of Privilege, Ethics Committee, Joint Parliamentary Committee</li> </ul>																									
<p><u>Committees to scrutinize and control</u></p>	<ul style="list-style-type: none"> <li>• They are responsible for monitoring the actions of the executive and ensuring that it follows the rules and procedures laid down by the Parliament.</li> <li>• There are 5 committees to scrutinize and control: Committee on Government Assurances, Committee on Subordinate Legislation, Committee on Papers Laid on the Table, Committee on Welfare of SCs and STs, Committee on Empowerment of Women</li> </ul>																									
<p><u>Committees relating to the day-to-day business of the House</u></p>	<ul style="list-style-type: none"> <li>• They are responsible for facilitating the smooth conduct of parliamentary proceedings and maintaining order and discipline in the House.</li> <li>• There are 6 committees relating to the day-to-day business of the House: Business Advisory Committee, Committee on Private Members' Bills and Resolutions, Rules Committee, Committee on Absence of Members from Sittings of the House, General Purposes Committee, Joint Committee on Offices of Profit.</li> </ul>																									
<p><u>House-keeping or service committees</u></p>	<ul style="list-style-type: none"> <li>• They are responsible for providing various amenities and services to the members of Parliament and ensuring their welfare.</li> <li>• There are four house-keeping or service committees: House Committee, Library Committee, Joint Committee on Salaries and Allowances of Members, Joint Committee on Maintenance of Heritage Character and Development of Parliament House Complex</li> </ul>																									

**Ad hoc committees**

- **Inquiry committees** are formed to probe into matters of public importance or allegations of corruption or misconduct. Some examples of inquiry committees are Joint Committee on Bofors Contracts (1987), Joint Committee on Stock Market Scam (2001), Joint Committee on 2G Spectrum Allocation (2011), etc.
- **Advisory committees** are formed to advise the government or the Parliament on policy matters or legislative proposals. Some examples of advisory committees are the Select Committee on Prevention of Corruption Bill (2018), the Joint Select Committee on Personal Data Protection Bill (2019), etc.

**Issues with Parliamentary Committees**

Lack of adequate time

- Parliamentary Committees often have to deal with a large number of matters within a short period.
- This affects their ability to conduct thorough scrutiny and analysis of various issues.

Lack of adequate resources

- Parliamentary Committees lack adequate staff, research support, infrastructure, and funds to carry out their functions effectively.
- They also face difficulties in accessing relevant information and data from the government.

Lack of transparency

- Parliamentary Committees usually conduct their meetings in private and do not allow media or public access.
- Their reports are also not made public until they are tabled in the House. This reduces their accountability and visibility to the public.

Lack of enforceability

- Parliamentary Committees do not have any binding authority over the government or the House.
- Their recommendations are only advisory in nature and can be accepted or rejected by the government or the House. This reduces their impact and influence on policymaking.



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## Recommendations to improve Parliamentary Committees:

- Increase the time allotted for committee meetings and extend their tenure beyond one year.
- Provide adequate staff, research support, infrastructure, and funds to committees.
- Ensure timely access to relevant information and data from the government.
- Increase transparency by allowing media and public access to committee meetings and reports.
- Increase enforceability by making committee recommendations mandatory or requiring a reasoned response from the government or the House.

## Way Forward

- Parliamentary committees provide better analysis and scrutiny of important issues that cannot be directly handled by the legislature due to their volume and complexity. They also monitor the functioning of the executive branch and act as an interface between the government and the people.
- Parliamentary Committees are vital organs of the Parliament that perform various functions that enhance its efficiency, accountability, and responsiveness. They need to be strengthened and empowered to fulfil their role more effectively and contribute to better governance in India.

## 1.6 ARTICLE 371F

### Context

- SDF Supremo Pawan Kumar Chamling claimed that the Sikkimese people feel betrayed as Article 371F, which guarantees special provisions for Sikkim, was violated.

### Concerns

- Sikkim had become a hotbed for political violence.
- Financial Bill, 2023 redefines Sikkimese as any Indian citizen domiciled in Sikkim, extending to them the same benefits as that of the original inhabitants whose forefathers' names were in the 1961 register.
- This violates Article 371F, which was the basis for the merger of Sikkim with India in 1975.
- Analysts feel the main concern of Sikkim's politicians is that land rights which are now enjoyed by only those Sikkimese whose parents were subjects of the earlier princely kingdom will be extended to any Indian domiciled in the Himalayan state.

### Political history of Sikkim

- It was an independent sovereign state before its merger with the Indian union.
- The erstwhile political system of Sikkim was based on monarchy and the sovereign authority, as well the political power was

vested with the Chogyal-The Maharaja of Sikkim.

- **Chogyal was assisted by a "State Council" whose members were elected and is based on adequate representation to the three ethnic communities viz., Bhutia, Lepcha and Nepali.**
- The laws of Sikkim were promulgated by royal proclamations and were traditional in accordance with the customs, conventions and traditions of the people of Sikkim.
- **Sikkim was made a protectorate under India-Sikkim Treaty 1950 and as an associate State of India under the Government of Sikkim Act, 1974 with a first ever responsible government.**
- **The Amendment Act, 1975 of the Constitution India passed by the Union Parliament made Sikkim 22<sup>nd</sup> state of the Indian federal polity with effect from 26 April, 1975.**

### About 371F

- According to Article 371F, only the descendants of Sikkim subjects (those who lived in the state before its merger with India) whose names were mentioned in the 1961 register are Sikkimese with rights to own land, get state government jobs.

- They were also exempted from paying income tax.
- **Legislative Assembly of the State of Sikkim shall consist of not less than thirty members.**
- There shall be allotted to the State of Sikkim **one seat in the House of the People** and the State of Sikkim shall form one parliamentary constituency to be called the parliamentary constituency for Sikkim.
- The representative of the State of Sikkim in the House of the People in existence on the appointed day shall be elected by the members of the Legislative Assembly of the State of Sikkim.
- **Parliament may, for the purpose of protecting the rights and interests of the different sections of the population of Sikkim make provision for the number of seats in the Legislative Assembly of the State of Sikkim which may be filled by candidates belonging to such sections.**
- **Governor of Sikkim shall have special responsibility for peace and for an equitable arrangement** for ensuring the social and economic advancement of different sections of the population of Sikkim.

## 1.7 PREVENTIVE DETENTION

### Context

- The Supreme Court said that “Preventive detention laws in India are a colonial legacy with a high potential for abuse and exploitation by the state”.

### What is Preventive Detention?

- It is a **legal measure that allows the state to detain a person without trial for a certain period**, on the grounds of preventing them from committing a future crime or endangering national security.
- It is often invoked in situations of emergency, war, terrorism, or public disorder.
- It may seem like a necessary and effective tool to deal with potential threats, but it also poses serious challenges to human rights and the rule of law.
- Preventive detention laws in India are derived from the Constitution, which empowers the **Parliament to make such laws under Article 22.**

#### There are commonly two types of detentions:

- **Punitive detention**, which means detention as a punishment for the criminal offence. It occurs after an offence is actually committed, or an attempt has been made towards the commission of that crime.
- On the other hand, **preventive detention** means a person’s incarceration in advance to prevent any further possibility of the commitment of crime or its engagement. Preventive detention is, therefore, an action taken on the basis of apprehension that the person in question might do some wrongful act.

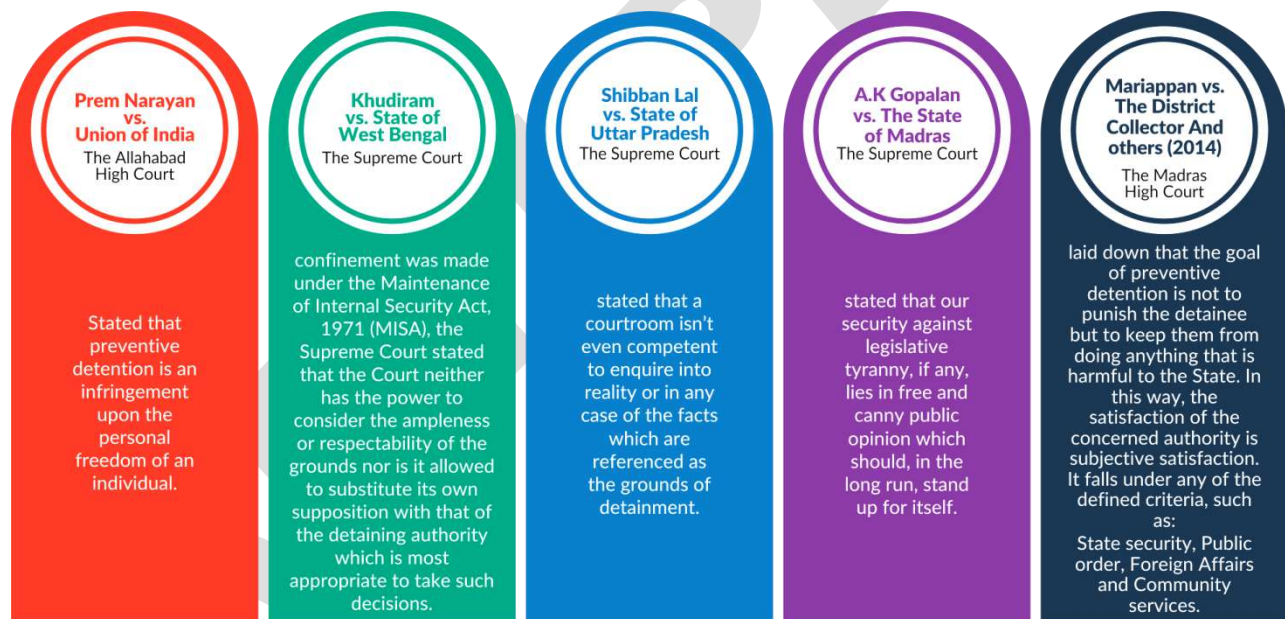
### Legal Provisions

- The **Preventive Detention Act, of 1950** talks about the detention of a person on the grounds of defence, foreign affairs or the security of the state.
- Under **Section 151 of the Criminal Procedure Code, 1973** (CrPC) preventive detention is police action taken on grounds of suspicion that some wrong actions may be done by the person concerned.
- **Under Entry 9 of List I** ( the Union List), Parliament has the exclusive power to enact a law for preventive detention for the reasons connected with defence, foreign affairs, or security of India.
- **Under Entry 3 of List III** (‘Concurrent List’), both Parliament and State Legislature have powers to enact such laws for the reasons related to the maintenance of public order or the maintenance of supplies or services essential to the community.



- **Constitution of India under Article 21** ensured a life with dignity to every person, which is a fundamental right which is inviolable.
- **Starting from pre-independence till now there have been several laws made in regard to preventive detention** such as Maintenance of Internal Security Act (MISA), 1971; Foreign Exchange Conservation and Prevention of Smuggling Activities (COFEPOSA), 1974; Terrorist and Disruptive Activities (Prevention) Act (TADA), 1985; Prevention of Terrorist Activities Act (POTA), 2002; Unlawful Activities (Prevention) Act, 1967 and many more in order to protect the society by constraining the ability of any individual who is likely to cause harm.
- **Article 22 of the Indian Constitution deals with certain rights that are provided in case of preventive detention:**
  - Clause 2 of Article 22 states that each individual who is arrested and detained shall be produced before the nearest judge within a timeframe of 24 hours of such capture.
  - Clause 4 of Article 22 provides that no law for preventive detention authorizes any individual to be detained for more than three months unless an advisory panel claims a reasonable justification for such detainment. The members on the consultative panel will be as eligible as a high court jury. The report has to be presented before the expiration period of the said three months.
  - Clause 5 of Article 22 specifies that the reason for detention shall be conveyed to the individual as quickly as possible by any official when detaining any individual under preventive detention.

### Judiciary in preventive detention cases



### Concerns

- It can be abused by the authorities to silence dissent, target minorities, or bypass due process.
- It can also lead to arbitrary and indefinite detention, torture, and other forms of ill-treatment.
- Therefore the law must be regulated by clear and strict criteria, safeguards, and oversight mechanisms.

### Some steps to regulate preventative detention

<u>Necessity</u>	Preventive detention should only be used as a last resort when there is no other less intrusive measure available to prevent a serious and imminent threat.
<u>Proportionality</u>	• Preventive detention should be proportional to the nature and gravity of the

<u>Legality</u>	<p>threat, and should not exceed the duration that is strictly necessary to prevent it.</p> <ul style="list-style-type: none"> <li>Preventive detention should be based on a clear and specific legal framework that defines the grounds, procedures, and limits of preventive detention.</li> <li>It should also comply with international human rights standards and obligations.</li> </ul>
<u>Accountability</u>	<ul style="list-style-type: none"> <li>Preventive detention should be subject to judicial review and independent oversight.</li> <li>The detained person should have access to legal counsel, medical care, and family contact.</li> <li>The detained person should also have the right to challenge the legality and necessity of their detention before a court or other competent authority.</li> </ul>
<u>Transparency</u>	<ul style="list-style-type: none"> <li>Preventive detention should be reported and monitored by relevant bodies, such as parliament, human rights institutions, or civil society organizations.</li> <li>The state should also provide accurate and timely information on the number, identity, location, and status of persons under preventive detention.</li> </ul>

### Way Forward

- Preventive detention is a serious measure that should only be employed in extreme cases and compliance with constitutional principles and human rights norms.
- It is important to regulate preventive detention laws to ensure that they are not used for political or personal revenge and that they respect the detainees' dignity and rights.
- Article 3 of the Universal Declaration of Human Rights guarantees “the right to life, liberty, and security of person”. It says that detention must be carried out in conformity with the law, and not arbitrary.
- Preventive Detention must be according to the law, reasonable and also lawful.**
  - Detainees must have the right to be informed of the reasons for the arrest and the charges framed against them.
  - The detainee must have the right to get a lawyer of his/her own choice.
- It is **essential to have an independent body outside the control of the executive to determine the legality of preventive detention.**
- Just like two faces of a coin, preventive detention also has its own merits and demerits. It is the responsibility of the legislature and executive to use it according to the law without shifting from the core value of the Indian Constitution.

## 1.8 ONLINE DISPUTE REDRESSAL

### Background

- At the Delhi Arbitration Weekend, **Union Law Minister emphasised the need for institutional arbitration** to enhance the ease of doing business.
- India has **shown tremendous improvement in the World Bank's Ease of Doing Business** report, rising from the 142nd rank among 190 countries in 2014 to 63rd in 2019.
- However, India is ranked 163rd, in 'Enforcing Contracts',** which is a marginal improvement from the 186th rank in 2015 and 173rd in 2006.

The report says it takes almost four years and 31% of the cost of the claim to enforce a contract in India; in contrast, it takes just over two years and costs 22% of the claim value in Brazil. In Mexico it is 341 days and 33% of claim value, and Vietnam 400 days, and 29% of claim value.

## What is ODR?

- ODR is the **resolution of disputes, particularly small- and medium-value cases, using digital technology and techniques of ADR**, such as arbitration, conciliation and mediation.
- It refers to the process of using technology for dispute avoidance, containment and resolution outside the traditional court system.
- Increasingly, ODR has received impetus across Government, businesses and even the judicial processes to tide over the constraints due to Covid-19.

### What are the types of ADR?

- **Arbitration:** dispute is submitted to an arbitral tribunal which makes a decision.
- **Conciliation:** A non-binding procedure in which an impartial third party, the conciliator, assists the parties.
- **Mediation:** Here, an impartial person called a “mediator” helps the parties to reach a mutually acceptable resolution. The mediator only helps the parties communicate so they can try and settle the dispute
- **Negotiation:** This is a non-binding procedure in which discussions are initiated between the parties without the intervention of the third party. It is the most common form of ADR.
- **Lok Adalat:** coming from the Legal Services Authorities Act, 1987 to encourage out-of-court settlements. The order of a Lok Adalat is final and is deemed as a decree of a civil court.

## Advantages and disadvantages of ODR

### Advantages

- ODR provides the disputants and neutrals with a **cost-effective means of dispute resolution**.
- ODR **eliminates travel requirements** and timetable synchronisation.
- It **increases community participation** in the dispute-resolution process.
- With the help of an independent mediator, ODR parties may negotiate their own settlement. The ODR meetings are thus adaptable and without procedural rules being strict.
- ODR can make an important contribution to **better access to a wide range of dispute resolution processes** by addressing significant issues such as access to physical courts or ADR centres.
- ODR processes **reduce the neutral's unconscious prejudice** when disputes are resolved.
- It **makes the process of storing data easier**.
- Improved legal health of the society.

### Disadvantages

- When using third-party applications, there are **risks to the confidentiality**, as well as a **technological inability to handle the varying complexity of legal cases**.
- It is **difficult for the advocate, arbiter, and mediator to build trust with the parties**.
- The disadvantages of not appearing in person include **less fluid discussions, less engagement or strategic discussion of issues, and greater difficulty reading body language**.
- A lack of human understanding and empathy.
- There is a **lack of accountability**, regulation, and guidelines.
- The possibility of **algorithmic bias**.

## ODR in India

- The **judiciary has been unequivocal in its support for ODR** both in terms of judges vocally recognizing its potential and in terms of the judicial decisions that have set the foundation for future ODR integration.
- The **Executive, in the form of Government Departments and Ministries** have also been leading the way.

- For instance, the RBI released an ODR policy for digital payments, the MSME sector saw the introduction of the SAMADHAAN portal and the Department of Legal Affairs is in the process of collating the details of ODR service providers across the country.
- Another aspect that makes India ODR ready is its legislative preparedness.
  - Though in a piecemeal fashion, there are numerous support legislations which provide legislative backing for the ADR aspect of ODR (such as the **Arbitration and Conciliation Act, 1996** or the **Code of Civil Procedure, 1908**) as well as the technology aspect of ODR (such as the **Indian Evidence Act, 1972** and the **Information and Technology Act, 2000**).
  - Further, India has also brought into force the **United Nations Convention on International Settlement Agreements**.

### Way Forward

- NITI Aayog released the report '**Designing the Future of Dispute Resolution: The ODR Policy Plan for India**', to scale dispute avoidance, containment and resolution online. The report recommends measures at three levels to tackle challenges in adopting ODR framework in India.
  - At the structural level, it suggests **actions to increase digital literacy, improve access to digital infrastructure and train professionals as neutrals to deliver ODR services**.
  - At the behavioural level, the report recommends **adoption of ODR to address disputes involving Government departments and ministries**.
  - At the regulatory level, the report recommends **a soft-touch approach to regulate ODR platforms and services**.
    - ✓ This involves laying down design and ethical principles to guide ODR service providers to self-regulate while fostering growth and innovations in the ecosystem.
    - ✓ The report also stresses on strengthening the existing legislative framework for ODR by introducing necessary amendments to statutes.
- There is a need to **incentivise use of ODR by way of legislative measures** such as setting ODR as a default dispute resolution tool for categories of disputes arising out of online transactions, fast-tracking enforcement of ODR outcomes, and exempting or reducing stamp duty and court fees.
- There is a **need to solve infrastructural challenges**, curb the digital divide, and catalyse ODR's growth by optimising existing setups such as Aadhaar kendras to also function as ODR kiosks. Each court can have an ODR cell along with supplemental technical and administrative support.
- **Government departments should explore ODR as a grievance redress mechanism**. Proactive use of ODR by government entities will not only increase trust in the process but also ensure that citizens have access to a convenient and cost-effective means of resolving disputes with the government.

### Conclusion

- ODR has the capacity to increase equity, fairness and access in India in the dispute settlement ecosystem.
- **E-Lok Adalats conducted at Chhattisgarh, Karnataka, Rajasthan, Gujarat and Kerala, which solved disputes simply by means of WhatsApp audio and video calls, showed the convenience of ODR.**
- ODR has the potential to be an efficient alternative which employs barriers and resolution access technology.
- **ODR could be the post-pandemic disruption that improves the delivery of justice to all by facilitating low costs, remote, technology-enhancing, linguistically friendly, friendly and incentivised dispute resolution, containment, and solution while adhering to natural justice principles.**

## 1.9 CIVIL UNION AND MARRIAGE

### Context

- A five-judge bench of the Supreme Courtday began hearing a batch of petitions seeking legal recognition of same sex marriage.

### Details


- On questions related to the judiciary's right to confer legal recognition on the "socio-legal institution" of marriage, the **Chief Justice clarified that the hearing's scope would be limited to developing a notion of a "civil union" that finds legal recognition under the Special Marriage Act.**

### What is a civil union?

- A "civil union" refers to the legal status that allows same-sex couples specific rights and responsibilities normally conferred upon married couples.

### How is a civil union different from marriage?

- Although a civil union resembles a marriage and brings with it employment, inheritance, property, and parental rights, there are some differences between the two.



### CASE STUDY: USA

- In the year 2015, the Supreme Court of the United States legalised same-sex marriages across the nation with its landmark ruling in "Obergefell v. Hodges".
- Prior to the 2015 ruling, a majority of the US states had civil union laws that allowed same-sex couples to marry, without providing them formal recognition of the same.
- These civil unions would be accompanied by rights such as inheritance rights, employment benefits to spouses, joint parenting or joint ownership rights, and the right to abstain from testifying against one's partner.

- A big difference between civil unions and marriages was that the **former was recognised solely by issuing states and not by federal law.** This created a situation where such couples could not enjoy the benefits of being in a civil union, uniformly, across all states.

### What other countries allow civil unions?

- Before 2009, the year that **Sweden** legalised same sex marriages, LGBTQ couples there could apply for civil unions and enjoy benefits such as the right to adopt.
- Similarly, from 1993, couples in **Norway** enjoyed the right to enter into civil unions, which gave way to a new law 15 years later, allowing such couples to marry, adopt and undergo state-sponsored artificial insemination.
- In **Austria**, same-sex couples could form civil partnerships between the years 2010-2017.
- Similarly, countries like **Brazil, Uruguay, Andorra, and Chile** had also recognised the right of same sex couples to enter into civil unions, even before they formally recognised their legal right to marriage.

## 1. 10 NAGALAND MUNICIPAL ACT

### Context

- Nagaland government **repealed the Nagaland Municipal Act of 2001** which led to the cancellation of the State Election Commission's notification for **holding elections to Nagaland's 39 urban local bodies (ULBs) with 33% of the seats reserved for women.**
- The apex court has however, stayed the notification cancelling the civic body polls.
- It was in this year, **for the first time**, that **Nagaland elected two women to power in the recent Assembly elections.**

### Why is there opposition to ULB polls?

- Nagaland is **arguably the only State where ULB seats are not reserved for women as mandated by clause IV of the 74th Amendment to the Constitution of India.**
- Most of the traditional tribal and urban organisations oppose the 33% reservation of seats for women as they argue that such reservation **would violate the special provisions granted by Article 371A of the Constitution to Nagaland.**
  - The Article states that no Act of Parliament would apply to the religious or social practices of the Nagas, Naga customary law and procedure, administration of civil and criminal justice involving decisions according to Naga customary law, and ownership and transfer of land and its resources.
- The hohos (apex tribal bodies) point out that women have traditionally not been part of decision-making bodies.



Only about 14% of the members in Indian Parliament are women, the highest so far. According to the Inter-Parliamentary Union, India has a fewer percentage of women in the lower House than its neighbours such as Nepal, Pakistan, Sri Lanka and Bangladesh — a dismal record.

### What has been the history of political reservation for women?

- The issue of reservation for women in politics **can be traced back to the Indian national movement.**
- The issue of women's reservation **came up in Constituent Assembly debates as well**, but it was rejected as being unnecessary.
- **Committee of the Status of Women in India, set up in 1971**, commented on the declining political representation of women in India.
  - Though a majority within the Committee continued to be against reservation for women in legislative bodies, all of them supported reservation for women in local bodies.
  - Slowly, many State governments began announcing reservations for women in local bodies.
- The **National Perspective Plan for Women recommended in 1988 that reservation be provided to women right from the level of the panchayat to that of Parliament.**
  - These recommendations paved the way for the historic enactment of the 73rd and 74th amendments to the Constitution which **mandate all State governments to reserve one-third of the seats for women in Panchayati Raj Institutions and one-third of the offices of the chairperson at all levels of the Panchayati Raj Institutions, and in urban local bodies, respectively.**
  - Within these seats, one-third are reserved for Scheduled Caste/Scheduled Tribe women.
  - Many States such as Maharashtra, Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand and Kerala have made legal provisions to ensure 50% reservation for women in local bodies.

### What are the arguments for women reservation?

- Proponents argue that **affirmative action is imperative to better the condition of women since political parties are inherently patriarchal.**

- There is **now evidence that women as panchayat leaders have shattered social myths**, been more accessible than men, controlled the stranglehold of liquor, invested substantially in public goods such as drinking water, helped other women express themselves better, reduced corruption, prioritised nutrition outcomes, and changed the development agenda at the grassroots level.
- India has a high percentage of crimes against women, low participation of women in the workforce, low nutrition levels and a skewed sex ratio. To address all these challenges, it is argued, we need more women in decision-making.

### What are arguments against?

- The idea runs counter to the principle of equality enshrined in the Constitution.
- They say that women will not be competing on merit if there is reservation, which **could lower their status in society**.
- Women are unlike, say, a caste group, which means that **they are not a homogenous community**. **Therefore, the same arguments made for caste-based reservation cannot be made for women.**
- **Women's interests cannot be isolated from other social, economic and political strata**
- Some argue that reservation of seats would restrict the choice of voters to women candidates.
- As men hold primary power as well as key positions in politics, some have even argued that bringing women into politics **could destroy the "ideal family"**.



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## 1. 11 NINTH SCHEDULE OF CONSTITUTION

### Context

- Chhattisgarh Chief Minister wrote to Prime Minister Narendra Modi **seeking the inclusion of two amendment Bills allowing for higher quota in jobs and educational institutions, in the Ninth Schedule of the Constitution.**

### Why the need to include in Ninth Schedule?

- The Ninth Schedule includes a list of Central and State laws which cannot be challenged in courts.

- The 77 per cent reservation breaches the 50 per cent ceiling set by the Supreme Court in the landmark 1992 Indra Sawhney v Union of India verdict.
- However, placing a legislation in the Ninth Schedule shields it from judicial scrutiny.

### Previous instances

Tamil Nadu's case	<ul style="list-style-type: none"> <li>• The Tamil Nadu Backward Classes, Scheduled Castes and Scheduled Tribes (Reservation of Seats in Educational Institutions and of Appointments or Posts in the Services under the State) Act, 1993, reserves 69 per cent of the seats in colleges and jobs in the state government.</li> <li>• When it ran into legal obstacles the reservation provision was then included in the Ninth Schedule.</li> </ul>
Jharkhand's case	<ul style="list-style-type: none"> <li>• The first Bill, 'Jharkhand Reservation of Vacancies in Posts and Services (Amendment) Bill, 2022', raised reservation to 77 per cent.</li> </ul>

### What is the Ninth Schedule?

- The Ninth Schedule contains a list of central and state laws which cannot be challenged in courts.
- Currently, 284 such laws are shielded from judicial review. Most of the laws protected

under the Schedule concern agriculture/land issues.

- The Schedule became a part of the Constitution in 1951, when the document was amended for the first time.
- It was created by the new Article 31B, which along with 31A was brought in by the government to protect laws related to agrarian reform and for abolishing the Zamindari system.
- While A. 31A extends protection to 'classes' of laws, A. 31B shields specific laws or enactments.
- The First Amendment added 13 laws to the Schedule.

### Are laws in the Ninth Schedule completely exempt from judicial scrutiny?

- While the Ninth Schedule provides the law with a "safe harbour" from judicial review, the protection is not blanket.
- When the Tamil Nadu law was challenged in 2007 (I R Coelho v State of Tamil Nadu), the Supreme Court ruled in a unanimous nine-judge verdict that while laws placed under Ninth Schedule cannot be challenged on the grounds of violation of fundamental rights, they can be challenged on the ground of violating the basic structure of the Constitution.
  - The court clarified that the laws cannot escape the "basic structure" test if inserted into the Ninth Schedule after 1973, as it was in 1973 that the basic structure test was evolved in the Kesavananda Bharati case as the ultimate test to examine the constitutional validity of laws.

## 1. 12 ASSAM-ARUNACHAL PRADESH BORDER DISPUTE

### Context

- Assam Chief Minister and his Arunachal Pradesh counterpart signed a Memorandum of Understanding (MoU) over the long-standing border dispute between the two states.

### Details

- The two states share a roughly 800-kilometre long border and the disputed areas the MoU deals with are 123 border villages, which span 12 districts of Arunachal Pradesh and 8 districts of Assam.



## History of the dispute

- Before North East Frontier Agency or NEFA (former name of what is now Arunachal Pradesh) was carved out of Assam in 1954, a **sub-committee** headed by then Assam Chief Minister Gopinath Bordoloi had made a set of recommendations in relation to the administration of NEFA and submitted a report in 1951.
- In line with the recommendations of this report, around 3,648 kilometres of the “plain” area of Balipara and Sadiya foothills were transferred from NEFA to Assam’s then Darrang and Lakhimpur districts.
- When Arunachal was made a Union Territory in 1972, it **contended that several forested tracts in the plains that had traditionally belonged to hill tribal chiefs and communities were unilaterally transferred to Assam.**



## Efforts to resolve this issue

### High-powered Tripartite Committee

In April 1979, a high-powered tripartite committee was constituted to delineate the boundary on the basis of Survey of India maps, as well as discussions with both sides.

While around 489 km of the 800 km were demarcated by 1983-84, further demarcation could not take place because Arunachal did not accept the recommendations and claimed several kilometres of the 3,648 sq km, which was transferred to Assam in line with the 1951 report.

Assam objected to this and filed a case in the Supreme Court in 1989, highlighting an “encroachment” made by Arunachal Pradesh.

### Local Boundary Commission

To resolve the dispute between the states, the apex court appointed a local boundary commission in 2006, headed by a retired SC judge.

In September 2014, the local commission submitted its report.

Several recommendations were made (some of which suggested Arunachal Pradesh get back some of the territory which was transferred in 1951), and it was suggested that both states should arrive at a consensus through discussions.

However, nothing came of it.

## To what extent has the issue been resolved?

- The dispute over 37 of these 123 villages had been resolved on July 15, 2022, itself with the signing of the Namsai Declaration between the both CMs, where they “agreed in principle” over them.
- This effectively reduced the number of disputes to be resolved to 86.
- **Through the MoU, the dispute over another 34 villages has been “amicably resolved”.**
- Of the 71 villages over which an understanding has been reached, the following has been decided:
  - One village in Arunachal Pradesh as per the notified boundary will be included in Assam
  - 10 villages in Assam as per the notified boundary will remain with Assam
  - 60 villages in Assam as per the notified boundary will be included in Arunachal Pradesh
- The village boundaries of 49 of the remaining villages are unresolved, and the **MoU states that in these the Regional Committees will finalize the boundaries within a period of six months “through continuous dialogue”.**

- Another three villages are located partially within the Indian Air Force's bombing area in Dullong. The MoU states that the matter regarding these three villages will be taken up by Arunachal Pradesh with the Government of India and the Indian Air Force.
- According to the MoU, both the state governments agree that **no new claim area or village will be added in the future beyond these 123 villages.**
- It also states that both the state governments "agree to effectively prevent any new encroachment in the border areas" and that they agree that the MoU is "full and final" in respect to the 123 villages.

## 1.13 INFORMATION TECHNOLOGY AMENDMENT RULES, 2023

### Context

- The Bombay High Court said the **Information Technology (IT) Amendment Rules, 2023 does not seem to offer protection to fair criticism of the government through parody or satire.**

### What are the IT Rules, 2021?

- World over, governments are grappling with the **issue of regulating social media intermediaries (SMIs).**
- In a bid to keep up with these issues, India in 2021, replaced its decade-old regulations on SMIs with the IT Rules, 2021 that were **primarily aimed at placing obligations on SMIs to ensure an open, safe and trusted internet.**

### What was the need to amend the IT Rules, 2021?

- There was a need to **ensure that the interests and constitutional rights of netizens are not being contravened by big tech platforms.**
- To **strengthen the grievance redressal framework in the Rules.**
- The **compliance with these should not impact early stage Indian start-ups.**

### Proposed amendments

- The first category involved **placing additional obligations on the SMIs to ensure better protection of user interests** while the second category **involved the institution of an appellate mechanism for grievance redressal.**

ACT	2023 AMENDMENT
Original IT Rules, 2021 obligated the SMIs to merely inform its users of the "rules and regulations, privacy policy and user agreement" that governed its platforms along with the categories of content that users are prohibited from hosting, displaying, sharing etc. on the platform.	<ul style="list-style-type: none"> <li>• This obligation on the SMIs has now been extended to ensuring that its users are in compliance with the relevant rules of the platform.</li> <li>• SMIs are required to "make reasonable" efforts to prevent prohibited content being hosted on its platform by the users.</li> <li>• SMIs to "respect all the rights accorded to the citizens under the Constitution, including in the articles 14, 19 and 21".</li> <li>• SMIs are now obligated to remove information or a communication link in relation to the six prohibited categories of content as and when a complaint arises.</li> <li>• They have to remove such information within 72 hours of the complaint being made.</li> </ul>

Prior to the IT Rules, 2021, platforms followed their own mechanisms and timelines for resolving user complaints. The IT Rules uniformed this by mandating that all social media platforms should have a grievance officer who would acknowledge the receipt of a complaint within 24 hours and dispose it within 15 days.

- SMIs have been obligated to “take all reasonable measures to ensure accessibility of its services to users along with reasonable expectation of due diligence, privacy and transparency”.
- Government has instituted Grievance Appellate Committees (GAC).
  - The committee is styled as a three-member council out of which one member will be a government officer (holding the post ex officio) while the other two members will be independent representatives.
  - Users can file a complaint against the order of the grievance officer within 30 days.
  - Importantly, the GAC is required to adopt an online dispute resolution mechanism which will make it more accessible to the users.

#### Benefits of the proposed amendments:

- To a large extent, they **enhance the responsibility and concomitantly the power of SMIs to police and moderate content on their platforms.**
- Given the importance of SMIs in public discourse and the implications of their actions on the fundamental rights of citizens, the **horizontal application of fundamental rights is laudable.**
- Given the virality with which content spreads, fixing a deadline is an important step to contain the spread of the content.
- The “accessibility” obligation is meant to **strengthen inclusion in the SMI ecosystem** such as allowing for participation by persons with disabilities and diverse linguistic backgrounds.

#### Challenges:

- Extending the obligation of SMIs has been met with skepticism by both the platforms and the users given the subjective nature of speech and the magnitude of the information hosted by these platforms.
  - **While the SMIs are unclear of the extent of measures they are now expected to undertake, users are apprehensive that the increased power of the SMIs would allow them to trample on freedom of speech and expression.**
- **SMIs to respect Fundamental Rights:** the wide interpretation to which this obligation is open to by different courts, could translate to disparate duties on the SMIs.
  - Frequent alterations to design and practices of the platform, that may result from a case-to-case based application of this obligation, could result in heavy compliance costs for them.
- There are concerns that ensuring “accessibility” may **obligate SMIs to provide services at a scale that they are not equipped to.**
- It is **unclear whether GAC is a compulsory tier of appeal or not**, that is will the user have to approach the grievance appellate committee before approaching the court.
- Also, appointments being made by the central government could lead to **apprehensions of bias in content moderation.**
- Further, the IT Rules, 2021 do not provide any explicit power to the GAC to enforce its orders.
- Lastly, if users can approach both the courts and the GAC parallelly, it could lead to **conflicting decisions** often undermining the impartiality and merit of one institution or the other.

#### **Way Forward**

- The concerns need to be addressed through **multistakeholder consultation and consensus building.**
- There is a need to **hold discussions with the news media organisation** on the topic as it has grave implications for the news industry.

- Rather than focusing on censuring of content, **focus should be on creating credible sources of information.**
- To make things easier, **use of technological advancements like AI should be resorted to** combat fake news and other misleading information.

## 1. 14 GOVERNOR'S POWER OVER STATE BILLS

### Context

- The Supreme Court sent a strong message that Governors should return Bills they do not agree to “as soon as possible” and not sit over them, making State Legislative Assemblies wait indefinitely.

***The Governor's inaction on bills passed by the Assembly creates a situation where the state government is unable to function in accordance with the Constitution.***

### Recent cases

TELANGANA	<ul style="list-style-type: none"> <li>• Governor kept pending several important Bills sent to her for assent in September 2022.</li> </ul>
TAMIL NADU	<ul style="list-style-type: none"> <li>• Governor forwarded the Bill for exemption from the National Eligibility cum Entrance Test (NEET) to the President after considerable delay.</li> </ul>
KERALA	<ul style="list-style-type: none"> <li>• Governor publicly announced that he would not give assent to the Lokayukta Amendment Bill and the Kerala University Amendment Bill.</li> </ul>

### Constitutional Provisions

- **Article 200:** proviso to Article 200 clearly mandates that Governors should “as soon as possible” return Bills, other than Money Bills, for reconsideration by the House with a note that the proposed law should be reconsidered.
  - Governor may give assent OR
  - He can send it back to the Assembly requesting it to reconsider some provisions of the Bill, or the Bill itself. In this case, if the Assembly passes the Bill without making any change and sends it back to the Governor, he will have to give assent to it OR
  - A Bill can be reserved for the consideration of the President only if the Governor forms an opinion that the Bill would endanger the position of the High Court by whittling away its powers. Here, the courts have conceded a certain discretion to the Governors in the matter of sending Bills to the President OR
  - He may withhold the assent. But it is not normally done by any Governor because it would be an extremely unpopular action.

### SC Rulings

PURUSHOTHAMAN NAMBOOTHIRI CASE	<ul style="list-style-type: none"> <li>• A Bill which is pending with the Governor does not lapse on the dissolution of the Assembly. Justiciability of assent not discussed.</li> </ul>
RAMESHWAR PRASAD AND ORS. VS UNION OF INDIA CASE	<ul style="list-style-type: none"> <li>• Court held: “the immunity granted by Article 361(1) does not, however, take away the power of the Court to examine the validity of the action including on the ground of malafides”.</li> </ul>
HOECHST PHARMACEUTICALS CASE	<ul style="list-style-type: none"> <li>• A Governor reserves a Bill for the consideration of the President in exercise of his discretion.</li> <li>• Justiciability of assent not discussed.</li> </ul>

### Recommendations of various Commissions

<b>RAJAMMANAR COMMITTEE</b>	<ul style="list-style-type: none"> <li>Recommended repeal of the provision enabling the Governor to reserve any Bill for the consideration of the President.</li> </ul>
<b>SARKARIA COMMISSION</b>	<ul style="list-style-type: none"> <li>Article 200 did not invest the Governor with a general discretion in reserving Bills and he should never reserve Bills because personally he does not like the policy embodied in them.</li> <li>It also advocated disposal of the Bills sent for the President's consideration within four months of their receipt.</li> </ul>
<b>VENKATACHALIAH COMMISSION</b>	<ul style="list-style-type: none"> <li>Proposed wide amendments including:                             <ul style="list-style-type: none"> <li>doing away with the power to withhold assent,</li> <li>taking away the power of the Governor to reserve a Bill except where the Constitution requires him to do so; and</li> <li>making the President bound to grant his assent when a Bill is reconsidered and passed by the State Legislature (with or without amendments) after it is returned by the Governor pursuant to the President's direction.</li> </ul> </li> </ul>
<b>PUNCHHI COMMISSION</b>	<ul style="list-style-type: none"> <li>Opined that all the proposals in the consultation paper of the NCRWC should be implemented.</li> </ul>

### Practices overseas

- United Kingdom:** Royal assent is necessary for a Bill to be passed by Parliament to become law and the crown has the power to withhold assent. By practice and usage there is no power of veto exercised by the crown in England now.
- United States:** President is empowered by the Constitution to refuse assent and return a Bill to the House but if the Houses again pass it with two thirds of each House the Bill becomes law.

### Concluding remarks

- The lesson to be drawn is that **refusal of assent is a practice which is not followed in other democratic countries.**
- And in some contexts, **it is unconstitutional or the Constitution itself provides a remedy so that the Bill passed by the legislature could become law even after the refusal of assent.**

## 1. 15 NATIONAL COMMISSION FOR PROTECTION OF CHILDREN

### Context

- The National Commission for Protection of Children (NCPCR) has recently issued **guidelines for conducting a preliminary assessment by the Juvenile Justice Board (JJB) under Section 15 of the Juvenile Justice Act, 2015 (JJ Act, 2015).**

### Details

- This preliminary assessment is to ascertain whether a juvenile can be tried as an adult.
- Replacing the Juvenile Justice Act, 2000, the 2015 Act, for the first time, provided for**

**trying juveniles in the age group of 16-18 as adults in cases of heinous offences.**

### How does a child get tried as adult?

- The Act has categorised the offences committed by children into three categories – petty offences, serious offences, and heinous offences.
- Section 15** of the JJ Act provides that **in case of a heinous offence alleged to have been committed by a child, who has completed or is above the age of sixteen years, the Board shall conduct a preliminary assessment regarding his mental and physical capacity to**

commit such offence, ability to understand the consequences of the offence and the circumstances in which he allegedly committed the offence.

- **Section 18 (3)** of the Act further suggests that, if the Board, after preliminary assessment under section 15 passes an order that **there is a need for trial of the said child as an adult, then the Board may order the transfer of the case to the Children's Court having jurisdiction to try such offences.**
- Thus, the sole objective of having such a preliminary assessment is to determine whether a child within the age group of 16-18 years should be tried as an adult in case of heinous offences.

### What are the responsibilities of the Board?

- JJB shall be responsible for the preliminary assessment and **provide the child, the child's family, and their counsel a copy of the order.**
- In case the JJB does not have at least one member who is a practising professional with a degree in child psychology or child psychiatry, the **Board shall take the assistance of psychologists or experts who have the experience of working with children in difficult times.**
- The child should also be provided with a legal aid counsel through the District Legal Services Authority who shall be present during the preliminary assessment.

### About NCPCR

- The National Commission for Protection of Child Rights (NCPCR) is an **Indian statutory body established by an Act of Parliament, the Commission for Protection of Child Rights (CPCR) Act, 2005.**
- The Commission **works under the aegis of Ministry of Women and Child Development.**
- The Commission **became operational on 5 March 2007.**

### Objective

- The Commission is mandated under section 13 of CPCR Act, 2005 **"to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in**

**consonance with the Child Rights perspective as enshrined in the Constitution of India and the UN Convention on the Rights of the Child."**

- As defined by the commission, **child includes person up to the age of 18 years.**

### Members

- A chairperson who, is a person of eminence and has done an outstanding work for promoting the welfare of children.
- Six members, out of which at least two are woman, from the following fields, is appointed by the Central Government from amongst person of eminence, ability, integrity, standing and experience in,-
  - Education
  - Child health, care, welfare or child development
  - Juvenile justice or care of neglected or marginalized children or children with disabilities
  - Elimination of child labour or children in distress
  - Child psychology or sociology
  - Laws relating to children.

### About Juvenile Justice (Care and Protection of Children) Act, 2015

- The JJ Act, 2015 **provides for strengthened provisions for both children in need of care and protection and children in conflict with law.**
- Some of the key provisions include:
  - change in nomenclature from 'juvenile' to 'child' or 'child in conflict with law'
  - clarity in powers, function and responsibilities of Juvenile Justice Board (JJB) and Child Welfare Committee (CWC)
  - clear timelines for inquiry by Juvenile Justice Board (JJB)
  - special provisions for heinous offences committed by children above the age of sixteen year
  - separate new chapter on Adoption to streamline adoption of orphan, abandoned and surrendered children

- inclusion of new offences committed against children and
- mandatory registration of Child Care Institutions.
- Under **Section 15**, special provisions have been made to tackle child offenders committing heinous offences in the age group of 16-18 years.
- The **Juvenile Justice Board** is given the option to transfer cases of heinous offences by such children to a Children's Court (Court of Session) after conducting preliminary assessment.
- To streamline adoption procedures for orphan, abandoned and surrendered children, the existing **Central Adoption Resource Authority (CARA)** is given the status of a **statutory body to enable it to perform its function more effectively.**
- **Separate chapter on Adoption** provides for detailed provisions relating to adoption and punishments for not complying with the laid down procedure.
- Several **rehabilitation and social reintegration measures** have been provided for children in conflict with law and those in need of care and protection.

## 1. 16 MANDAL COMMISSION

### Context

- With the second phase of the caste survey beginning in Bihar, opposition political parties are also raising a pitch on the issue.
- There was a heated political war over sections of the Ramcharitmanas in Uttar Pradesh and Bihar, with some leaders arguing that the text "abuses" Dalits, Adivasis and backward castes.

### About 'Mandal-Kamandal'

- The term 'Mandal-Kamandal' **gained centrality in the mid-90s in the complex political landscape of two Hindi heartlands –Uttar Pradesh and Bihar**—and has been used by regional parties, which mainly stuck to caste-based politics, and the BJP, which strongly followed the Hindutva ideology.

<b>Mandal</b>	<ul style="list-style-type: none"> <li>• Term often referred to politics involving Other Backward Classes (OBCs) and Scheduled Castes.</li> <li>• It has its origins in the Mandal Commission which was established in 1979 by the Janata Party government to "identify the socially or educationally backward classes" of India.</li> </ul>
<b>Kamandal</b>	<ul style="list-style-type: none"> <li>• A water pot often used by spiritual leaders, has over the years become a metaphor for Hindutva politics.</li> </ul>

### Background

- In 1953, the government had set up the First Backward Class Commission under the chairmanship of social reformer Kaka Kalelkar.
  - The commission submitted its report in March 1955, listing 2,399 backward castes or communities, with 837 of them classified as 'most backwards'.
  - Though the report was never implemented.
- In 1979, the **Morarji Desai government chose Bindeshwari Prasad Mandal, a former chief minister of Bihar, to head the Second Backward Class Commission.**
- Mandal submitted his report two years later.
- By then, the Morarji Desai government had fallen and Indira Gandhi came to power.
- It remained in deep freeze during her term and that of Rajiv Gandhi.

- Finally in the year 1990, **V.P. Singh decided to implement the recommendations of the Mandal report in employment sectors.** However, his announcement led to massive protests across the country.
- The report was criticised mainly for using the 1931 census and making caste as a criteria for reservation. These evolved into anti-Mandal protests.
- But there was also another faction which applauded the report and organised pro- Mandal protests, which included political leaders.

### What were the findings of the report?

- Mandal Commission mentioned that India's population consisted of approximately 16 per cent non-Hindus, 17.5 per cent Brahmins and "forward castes," 44 per cent "other backward classes," and 22.5 percent scheduled castes and tribes.
- It recommended that **members of OBCs be given 27 per cent reservations for jobs under the Central government and public sector undertakings.**
- This would take the total number of reservations for Scheduled Castes and Scheduled Tribes to 49 per cent.

### What is the Indira Sawhney Case?

- Following the severe opposition, the issue of OBC reservation reached the Supreme Court in 1992. This case is famously known as the 'Indira Sawhney Vs Union of India and Ors.' or Mandal Case.
- In its **judgement by the nine-judge bench, the Supreme Court upheld the 27% reservation for OBCs but also stated that only caste was not an indicator of social and educational backwardness.**
- The **creamy layer criteria was invoked** which means a household with an annual income of Rs 8 lakh or above would be classified as belonging to the 'creamy layer' among OBCs and therefore, would not be eligible for reservations.
- Moreover, the judgement also made it clear that **reservation shall not exceed 50 per cent, moreover, reservation in promotions shall not be allowed.**
- However, the introduction of a 10% quota for the "economically backward" in the unreserved category, through the Constitution (103rd Amendment) Act, 2019, has breached the 50% quota limit. **The 10% reservation to the economically backward category was also suggested by the Mandal commission report, however it wasn't implemented then.**

## 1. 17 SPORTS GOVERNANCE

### Context

- The Supreme Court called the allegations of sexual harassment against Wrestling Federation of India (WFI) president "serious" while issuing a notice to the Delhi Police in the matter.

### Background

- Given **India's economy and the country's young demographics**, India is fast emerging as a preferred venue for major sporting events such as Commonwealth Games, Asian Games and World Cups of Hockey and Cricket.
- However, **barring a few popular sports, our country's performance in most of these events continues to be dismal.**
- Even a **large amount of public and private investment in sports has been unable to achieve any substantial improvement.**
- These failures are often attributed to the model of sports governance in India.
- **Allegations of nepotism, fiefdom, unaccountability and financial irregularities in sports federations** have given credence to this view.



## History of sports governance

1950	<ul style="list-style-type: none"> <li>• <b>Entry 33 in the seventh schedule of the Indian Constitution</b> provides that the state as well as the Centre shall make and enact laws on regulation, registration and recognition of associations involved in sports.</li> </ul>
Early 1950s	<ul style="list-style-type: none"> <li>• Government created the <b>All India Council of Sports (AICS)</b> to apprehend the declining standards of sports in the country.</li> </ul>
1958	<ul style="list-style-type: none"> <li>• An ad-hoc committee was formed to support the AICS. It was responsible for recommending a Central Training Institute that would offer standardized coaching facilities.</li> </ul>
1961	<ul style="list-style-type: none"> <li>• The National Institute of Sports (NIS) in came up at Patiala's Moti Bagh Palace</li> </ul>
1984	<ul style="list-style-type: none"> <li>• National Sports Policy</li> </ul>
1988	<ul style="list-style-type: none"> <li>• A proposed amendment of the federal constitution tried to accommodate sports in the concurrent list, in which the central government could also share equal responsibility. This amendment bill was withdrawn in 2009.</li> </ul>
2001	<ul style="list-style-type: none"> <li>• National Sports Policy</li> </ul>
2007	<ul style="list-style-type: none"> <li>• Comprehensive National Policy</li> </ul>
2011	<ul style="list-style-type: none"> <li>• Draft National Sports Development Bill</li> </ul>
2011	<ul style="list-style-type: none"> <li>• Sports Development Code. The code was introduced to <b>ensure good governance practices in the management of sports at the national level</b> without interfering with the autonomy of the national sports bodies. The Code laid down restrictions regarding age and tenure.</li> </ul>

## Current Sports Model in India

- The existing model of governance of sports in India has two wings,
- One in which the government bodies are controlled by **Ministry of Youth Affairs and Sports (MYAS)**. This wing has institutions like the **Sports Authority of India (SAI)** and other institutions working towards **promoting sports training under SAI**.
- The other wing has the **Indian Olympic Association (IOA)**. **State Olympic Associations (SOAs)** and the **national and state Sports Federations (NSFs and SFs)** come under the IOA.
- However, the MYAS provides financial and infrastructural support to the National and State Sports Federations and indirectly control these federations through political representations.
- In addition to this, there are **federations for non-Olympic sports such as Board of Control for Cricket in India (BCCI) for cricket**. These federations are directly affiliated to their respective international boards.
- Similar to the Olympic Charter, government intervention is restricted by the charter of their respective federations.
- All sporting bodies are **registered as societies under the Societies Registration Act of 1860**.
- These bodies are recipients of government aid in multiple forms ranging from direct financial assistance to indirect tax subsidies in the form of tax benefits (as in the case of BCCI).

## Issues

- The biggest concern regarding these bodies so far has been a **complete lack of checks and balances**.
- The current sports model faces accountability issues such as that of having **unlimited discretionary powers and also there is no transparency in the decision-making**.
- The **irregularities by the revenue management** are also amass.
- There are **administrative issues relating to sponsorships and media rights entertainment**.

- **Discrimination** based on sex, religion etc and **doping and drug related issue** is very popular among sportsperson nowadays.
- **Unauthorized betting** has also caused a lot of havoc.
- Developmental issues relating to those of **infrastructure development and cultural development** are still there.

### Way Forward

- Given the diverse cultural heritage of India, it **cannot adopt the Chinese model which involves a lot of indirect state activity neither can it the US model which is completely open.**
- Operating under the supervision of the Prime Minister of India, **Ministry of Youth Affairs and Sports shall constitute an independent sports regulator known as Sports Regulatory Authority of India (SRAI).**
- There must be **presence of powerful and defined sports legislation in India** covering all the nuances of sports and giving no arbiter powers to any authority.
  - In the absence of a strong legislation, there will be no efficacy in the functions of the sports authorities.
  - Also, there might be absolute political intervention, which can be easily checked with a well-drafted legislation reducing anomalies.
  - The sporting universe has time and again tormented by numerous scandals and scams.
- In the context of sports, one major identified problem is the use of performance-enhancing drugs. This problem still needs to be addressed effectively, despite the creation of NADA in the country.
- **The laws of competition should be completely in consonance with the sports law framework.**
- Issue of grant of broadcast rights of sporting events is yet another contentious issue. Ministry of Information & Broadcasting which is the pertinent authority can be subject to Right to Information in this connection.

## 1.19 SHORT TOPICS

### Anganwadi Services

#### Context

- Almost **three in four of the new anganwadi centres to be constructed in the current year will be built in convergence with the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme.**

#### Details

##### Financing

- The ₹12 lakh cost of construction of each anganwadi centre would be split, with **₹8 lakh being provided under MGNREGS and the remaining ₹4 lakh will be paid by the Central and State governments** in equal amounts.
- States may seek CSR funds on their own discretion, apart from accepting donations from individuals, companies, business houses and institutions of repute for construction of anganwadis purely on a pro bono basis without any obligation.

#### Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005

- It provides a **legal right for 100 days of employment in every financial year to at least one member of every rural household** whose adult members agree to do **unskilled manual work.**
- **The Ministry of Rural Development is monitoring** the implementation of this scheme.
- **Women were guaranteed one-third of the jobs** made available under the MGNREGA.
- **Work is to be provided within 5 km of workers' residence** and minimum wages are to be paid.
- **Right to get unemployment allowance** in case employment is not provided within 15 days of applying.
- MGNREGA is implemented mainly by gram panchayats.
- **The involvement of contractors is banned.**
- **The Social Audit of MGNREGA works is mandatory,** which ensures accountability and transparency.

- States and Union Territories can seek funding for specific aspects of anganwadi infrastructure, including toilets, rainwater harvesting systems, furniture, cooking utensils, kitchen infrastructure and storage facilities.

**What are Anganwadi centres?**

- The anganwadi centres, **operated under the Integrated Child Development Services scheme are the first village outpost for nutrition, health and early learning.**

**Competition Amendment Bill, 2023**

**Context**

- The Lok Sabha passed The Competition (Amendment) Bill, 2023 to amend The Competition Act of 2002.

**Competition Act, 2002**

- It governs Indian competition law.
- It replaced the archaic The Monopolies and Restrictive Trade Practices Act, 1969.
- Competition Commission of India was established to prevent the activities that have an adverse effect on competition in India. This act extends to whole of India.

**The features of the Competition Act are:**

- Prohibits anti-competitive agreements
- Anti cartels
- Will decide on mergers and acquisitions only if it does not harm competition in the market.
- Enterprise shall inform CCI regarding their dealings that are likely to affect competition

**Features of Amendment Bill**

- The Bill seeks to amend the Competition Act of 2002 to regulate mergers and acquisitions based on the value of transactions.

<b>Regulation based on Merger and Acquisition</b>	<ul style="list-style-type: none"> <li>• The Bill seeks to amend the Competition Act, 2002, to regulate mergers and acquisitions <b>based on the value of transactions.</b> Deals with transaction value of more than Rs 2,000 crore will require CCI's approval. The Bill <b>proposes to reduce the</b></li> </ul>
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	<b>timeline for the CCI to pass an order on such transactions from 210 days to 150 days.</b>
<b>Expansion of the scope of entities</b>	<ul style="list-style-type: none"> <li>• The Bill expands the scope of entities that can be adjudged to be a part of anti-competitive agreements. Currently, enterprises or persons engaged in similar businesses can be held to be a part of anti-competitive agreements. The Bill expands this to also include enterprises or persons who are not engaged in similar businesses.</li> </ul>
<b>Framework for settlement and commitment</b>	<ul style="list-style-type: none"> <li>• The Bill provides a framework for settlement and commitment for faster resolution of investigations of anti-competitive agreements and abuse of dominant position.</li> </ul>
<b>Decriminalises certain offences under the Act</b>	<ul style="list-style-type: none"> <li>• The Bill decriminalises certain offences under the Act by changing the nature of punishment from imposition of fine to civil penalties. These offences include failure to comply with orders of the CCI and directions of the Director General related to anti-competitive agreements and abuse of dominant position.</li> </ul>

**Doctrine of Promissory Estoppel**

**Context**

- The Supreme Court dismissed petitions challenging the Agnipath scheme.

**Details**

- An advocate for some of the petitioners informed the Supreme Court that their names were on a provisional list for recruitment to the Air Force, but the recruitment process stopped when the Agnipath plan was announced.

- They claimed that under the “law of promissory estoppel”, the government should be directed to complete the old process.

**The doctrine of promissory estoppel**

<p><b>About</b></p>	<ul style="list-style-type: none"> <li>• Promissory estoppel is a legal notion that originated in contract law.</li> <li>• A legal contract demands that an agreement be established with sufficient consideration.</li> <li>• A claim of promissory estoppel simply prevents a "promisor" from withdrawing from an agreement because there is no "consideration."</li> <li>• The theory is utilised in court by a plaintiff (the person filing a civil action) against the defendant to ensure contract performance or seek compensation for contract failure.</li> </ul>
<p><b>Related Case</b></p>	<ul style="list-style-type: none"> <li>• In <b>ChhaganlalKeshavalal Mehta v. Patel NarandasHaribhai</b> case (1981), the Supreme Court established a list of criteria for when the concept can be applied:             <ul style="list-style-type: none"> <li>○ There must be a clear and unambiguous promise.</li> <li>○ The plaintiff must have acted relying reasonably on that promise.</li> <li>○ The plaintiff must have experienced a loss.</li> </ul> </li> </ul>
<p><b>Court verdict</b></p>	<ul style="list-style-type: none"> <li>• The court rejected the lawyers' argument. They pointed out that "promissory estoppel is always subject to the overarching public interest."</li> <li>• The court said that "this is not a contract matter where promissory estoppel in public law was applied, it is a public employment" and that "the question of applying this principle will not arise in this case."</li> </ul>



**Ad Hoc Judges**

**Context**

- In a rare instance, the Supreme Court collegium has recommended the appointment of a retired district judge as a judge of the Madhya Pradesh HC, citing legitimate expectation and delay in the selection process, a move that would allow him to serve two years as a constitutional court judge.

**Details:**

**Past instances**

- In the past, only two persons – Justices Fathima Beevi and Bahrul Islam – were appointed as Supreme Court judges months after their retirement as HC judges.

**Constitutional Provisions**

**Adhoc Judges for Supreme Court-**

**Article 127**

- (1) If at any time there should not be a quorum of the Judges of the Supreme Court available to hold or continue any session of the Court, the Chief Justice of India may, with the previous consent of the President and after consultation with the Chief Justice of the High Court concerned, request in writing the attendance at the sittings of the Court, as an ad hoc Judge, for such period as may be necessary, of a Judge of a High Court duly qualified for appointment as a Judge of the Supreme Court to be designated by the Chief Justice of India.
- (2) It shall be the duty of the Judge who has been so designated, in priority to other duties of his office, to attend the sittings of the Supreme Court at the time and for the period for which his attendance is required, and while so

attending he shall have all the jurisdiction, powers and privileges, and shall discharge the duties, of a Judge of the Supreme Court.

**Additional Judges for High Courts-**

**Article 224A**

- (3) If by reason of any temporary increase in the business of High Court or by reason of arrears of work therein, it appears to the President that the number of the Judges of that Court should be for the time being increased, the President may appoint duly qualified persons to be additional Judges of the Court for such period not exceeding two years as he may specify.
- (4) When any Judge of a High Court other than the Chief Justice is by reason of absence or for any other reason unable to perform the duties of his office or is appointed to act temporarily as Chief Justice, the President may appoint a duly qualified person to act as a Judge of that Court until the permanent Judge has resumed his duties.
- (5) No person appointed as an additional or acting Judge of a High Court shall hold office after attaining the age of sixty two years.

**Cinematograph (Amendment) Bill 2023**

**Context**

- The Cinematograph (Amendment) Bill, 2023 has been approved by the Union Cabinet.

**Features of 2021 Draft Bill**

Penalty	<ul style="list-style-type: none"> <li>• Called for up to three years in prison and a fine of 10 lakhs for anyone who engaged in movie piracy.</li> </ul>
Re-examination of films	<ul style="list-style-type: none"> <li>• It gave the government the authority to request a re-examination of previously approved films by the Central Board of Film Certification (CBFC).</li> </ul>
Classification of films	<ul style="list-style-type: none"> <li>• There are currently three classifications for films: U for unrestricted exhibition, U/A for films that can be watched by kids with an adult's</li> </ul>

	<p>supervision, and A for films that are only meant to be seen by adults.</p> <ul style="list-style-type: none"> <li>• The U/A category was increased in the 2021 draft Bill to include U/A 7+, U/A 13+, and U/A 16+.</li> </ul>
Age categories	<ul style="list-style-type: none"> <li>• Age categories must be used by streaming services with content descriptions.</li> </ul>

**Features of Cinematography Act 1952**

Objective	<ul style="list-style-type: none"> <li>• To make provision for the certification of cinematograph films for exhibition and for regulating exhibitions.</li> </ul>
Central Board of Film Certification	<ul style="list-style-type: none"> <li>• The Indian Cinematograph Act 1920 created Censor Boards in a few cities. These boards (which were autonomous) were placed under the city's police chiefs.</li> <li>• In 1952, it was reconstituted as the Central Board of Film Censors. In 1983, the name was changed to Central Board of Film Certification.</li> </ul>
Film Certification Appellate Tribunal	<ul style="list-style-type: none"> <li>• It is a statutory body constituted under the Ministry of Information and Broadcasting.</li> <li>• The FCAT hears appeals filed by applicants aggrieved by any order of the Central Board of Film Certification.</li> <li>• An aggrieved person has to file an appeal within 30 days from the date of the CBFC order.</li> <li>• An appeal against a decision of the FCAT can be made to the head of the Ministry of Information</li> </ul>

	<p>and Broadcasting or through the country's legal system.</p> <ul style="list-style-type: none"> <li>• <b>The FCAT is headed by a Chairman who is generally a retired Supreme Court judge. He/she is assisted by other members of the Tribunal.</b></li> </ul>
What films will not be certified?	<ul style="list-style-type: none"> <li>• The Act states that a film will not be certified if any part of the film is: <ul style="list-style-type: none"> <li>○ Against India's sovereignty and integrity</li> <li>○ Against the State's security</li> <li>○ Against friendly relations with foreign nations</li> <li>○ Against public order</li> <li>○ Against decency</li> <li>○ Involves defamation or contempt of court</li> </ul> </li> <li>• <b>According to the Act, the scenes showing extreme violence, obscene language, vulgarity, contempt of court, an insult to the national symbol, the incorrect portrayal of personalities, religion, etc. are not permitted.</b></li> </ul>

- distance between the origin and destination of the flight.
- **Viability gap funding (VGF) to be provided will be capped at 600 km stage length for both Priority and Non-Priority areas which was earlier capped at 500 km.**
- No predetermined routes would be offered.
- The same route will not be awarded to a single airline more than once.
- Exclusivity will be withdrawn if the average quarterly PLF is higher than 75% for four continuous quarters.
- **Airlines would be required to commence operations within 4 months of the award of the route.**
- Novation process for routes from one operator to another is simplified and incentivized.

About the scheme

HISTORY	<ul style="list-style-type: none"> <li>• The scheme was started in <b>2016 with the objective to enhance aviation infrastructure and air connectivity in tier II and tier III cities.</b></li> </ul>
WORKING OF THE SCHEME	<ul style="list-style-type: none"> <li>• As on 4th August 2022, more than one crore passengers have availed of the benefits of this scheme.</li> </ul>
OBJECTIVES	<ul style="list-style-type: none"> <li>• The main objective is to upgrade under-serviced air routes and to promote air transport infrastructure development in all regions and states of India.</li> <li>• Its goal is to make air travel affordable, boost economic development, and promote job growth.</li> </ul>
FUNDING	It is jointly funded by the Union government and state governments.
CONCESSIONS	<ul style="list-style-type: none"> <li>• <b>Concessions from the Union Government:</b> <ul style="list-style-type: none"> <li>○ Created a Viability Gap Funding (VGF) to subsidise the airfare.</li> </ul> </li> </ul>

**UDAN 5.0 Scheme**

Context

- Following the four successful rounds of bidding, the **Ministry of Civil Aviation has launched the 5<sup>th</sup> round of the Regional Connectivity Scheme (RCS) - UdeDesh Ka Aam Nagrik (UDAN)** to further enhance the connectivity to remote and regional areas of the country and achieve last mile connectivity.

Key Features of UDAN 5.0

- This round of UDAN focuses on **Category-2 (20-80 seats) and Category-3 (>80 seats).**
- The earlier stage length cap of 600 km is waived off and there is no restriction on the

	<ul style="list-style-type: none"> <li>○ Concession on service tax on tickets.</li> <li>• <b>Concessions from State Governments;</b> <ul style="list-style-type: none"> <li>○ Reduction of GST for 10 years.</li> <li>○ Coordinate with oil companies to create fuelling infrastructure on airports.</li> <li>○ Provide free land for the development of the airport, with multimodal (rail, road, metro, waterways, etc.) hinterland connectivity.</li> <li>○ Provide free security Systems and manpower.</li> <li>○ Provision of water, electricity and other utilities at a reduced rate.</li> <li>○ 20% share of Viability Gap Funding; North-Eastern states, Uttrakhand, Himachal Pradesh and Union territories to provide 10% share only.</li> </ul> </li> <li>• <b>Concessions from airport operators;</b> <ul style="list-style-type: none"> <li>○ No landing, parking or other charges.</li> <li>○ No Terminal Navigation Landing Charges.</li> </ul> </li> </ul>		<p>regional airports, the remaining 50% of seats will be priced at market rate.</p> <ul style="list-style-type: none"> <li>• For helicopter services, the maximum fare is also capped at Rs 2,500 for every 30-minute leg of the flight.</li> </ul>
<p>MAXIMUM FARE</p>	<ul style="list-style-type: none"> <li>• There is a cap of maximum fare of Rs 2,500 per hour of flight for 50% of the seats, connecting unserved and underserved</li> </ul>		

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# POLITY

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## 1. 20 SNIPPETS




### SAFE CITY PROJECT

### SAFE CITY PROJECT

- Delhi will soon have a seamless network of sensors implemented as part of the first phase of the Safe City Project.
- It is an initiative of Govt. of India under the Nirbhaya funds scheme for ensuring safety of women and children
- The Empowered Committee under Nirbhaya fund has approved Safe City projects in 8 selected cities (Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Lucknow).

### PRADHAN MANTRI JAN DHAN YOJANA

- In the last two financial years, only 329 claims for accident insurance cover provided to bank account holders under the Pradhan Mantri Jan Dhan Yojana (PMJDY) have been settled out of the 647 claims that were filed.
- Launched in 2014, Pradhan Mantri Jan Dhan Yojana is a financial inclusion program of the Government of India open to Indian citizens, that aims to expand affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions.






### VIBRANT VILLAGE PROGRAMME

- The Union Home Minister inaugurated the 'Vibrant Villages Initiative' in Kibithoo, a village on India's border with China.
- The Vibrant Villages Programme is a centrally sponsored scheme that has identified 2,967 villages in 46 blocks of 19 districts along the northern border in the states of Arunachal Pradesh, Sikkim, Uttarakhand, and Himachal Pradesh, as well as the Union Territory of Ladakh, for comprehensive development.
- Government of India has approved the initiative, with Central components totalling Rs 4,800 crore, including Rs 2,500 crore specifically for road connectivity, during the fiscal years 2022-23 to 2025-26.

### SPORTS AUTHORITY OF INDIA AND DIGILOCKER

- For the first time ever, the Sports Authority of India has integrated Khelo India Games Certificates with DigiLocker, thus allowing Athletes etc. to access their Khelo India Certificates through the digital platform.
- DigiLocker is a flagship initiative of Ministry of Electronics & IT (MeitY) under Digital India Programme.
  - A secure cloud-based platform for storage, it enables for easy sharing and verification of documents & certificates.
- The Sports Authority of India (SAI) is the apex national sports body of India, established in 1982 by the Ministry of Youth Affairs and Sports of Government of India for the development of sports in India.





### ABHILEKHPATAL

- The Prime Minister has praised "Abhilekhpatal" a portal with over 1 Crore Pages of Historical Records of the National Archives.
- Abhilekhis a Sanskrit term used in India for records since ancient times and Patal is a Sanskrit word meaning a board, platform, or a surface.
- A combination of both these words has been adopted as an acronym for Portal for Access to Archives and Learning.
- It is a full-featured web-portal to access the National Archives of India's reference media and its digitized collections through the internet.

### ONE WEEK- ONE LAB PROGRAMME

- Union Minister of State for Science & Technology launched the National Physical Laboratory's (NPL) 'one week, one lab' programme.
- The campaign will allow each of the 37 CSIR (Council of Scientific and Industrial Research) Labs spread across the country to showcase their work to get benefits and for stakeholders to learn about it.
- Each of the CSIR labs showcases their exclusive ideas and technological breakthroughs to the people of India over the course of many weeks.
- The CSIR laboratories are one-of-a-kind and specialise in topics ranging from the genome to geology, food to fuel, minerals to materials, and so on.





## 1. 21 5 MCQS AND 1 MAINS QUESTION

**Q1.** *In law, there is a very prominent saying that "Justice Delayed is Justice Denied". In today's time, many factors restrain the judiciary from providing sought justice in time. Among those factors, the major factor is 'Pendency'. Elaborate on the judicial and legislative steps that can be taken to address the perennial issue of huge pendency of cases in the High Courts in different states in India. (15)*

### Context

- According to India Justice report 2022, in most states, the number of cases pending per judge has increased over the last five years, although the sanctioned strength has stayed relatively constant.

### Data to highlight severity of the situation

- According to reports that cited data from the National Judicial Data Grid at present, there are **358.5 lakh cases pending in the various high courts.**
- if no new cases were to be filed, the time taken by courts to dispose of all the pending cases at the current **disposal rate would be three years each for High Courts.**

### Strategies adopted

- **National Mission for Justice Delivery and Legal Reforms**, approved in 2011, has adopted "many strategic initiatives" towards that end.
- Centre has been implementing the **e-Courts Mission Mode Project.**
- **'Arrears Committees'** have been set up in the High Courts to "clear cases pending for more than five years".
- **Amendment to the Arbitration and Conciliation Act, 1996**, was effected in 2015 for "expediting the speedy resolution of disputes by prescribing timelines".
- Supreme Court Collegium recently recommended the **appointment of 129 High Court judges.**
- State litigation policies have been formulated

by various states as a consequence of **National Litigation Policy 2010.**

- **In 2015, Legal Information Management and Briefing System** was created.
- **SC: criminals sentenced to 6/12 months' imprisonment should be allocated social service duties** rather than be sent to already overflowing prisons.

### Suggestions

- **Judicial Intervention:**
  - The number of days of work that is done in higher courts should be increased so the judicial officers are able to handle an increased number of cases by their end to overcome the pendency.
  - In accordance with the constitution of India High Court can act in order to appoint effective and efficient Judges with experience as Adhoc Judges and the presence of retired Judges.
  - There should be a specification regarding the time consumption with regards to an offence and the trial proceedings.
  - There should be an annual target and action plan for high courts for the disposal of cases every year which can make the pace of a case go a little faster, thus, coping up to the pendency.
  - Stricter rules of conduct to be applicable to officials to ensure adequate performance in the duties and tasks which are a part of creating the problem of pendency.
  - Strict regulation with regards to adjournment of the cases.
- **Legislative Intervention:**
  - Statutory and administrative law reform.
  - A planned timeline for e-courts, computerisation of documents and automation of technology will make justice delivery more responsive towards the need of litigants.
  - Streamline Judicial Appointments.

- Commercial Courts, Commercial Division and Commercial Appellate Division of High Courts Act, 2015 should be implemented in the largest cities to decongest existing courts.
- A case clearance rate of 100 per cent can be achieved with the addition of merely 293 in High Courts even without efficiency gains.
- Economic Survey 2019 has proposed to create a specialized service called Indian Courts and Tribunal Services (ICTS) that focuses on the administrative aspects of the legal system.

### Conclusion

- 'The need of the hour to mitigate the problem of pendency is to think out of the box', said by Justice Chandrachud signifies that obsolete ways to dispose of cases has resulted in clogging of the system and overburdening of the judiciary with pendency. There is a need to contemplate and take immediate steps to address and resolve these problems so that people don't lose their faith in the judiciary and its power to impart justice.

### Q2. Consider the following statements in the context of the Central Bureau of Investigation:

1. It is a statutory body under the Delhi Special Police Establishment Act, 1946.
2. It operates under the jurisdiction of the Ministry of Personnel, Public Grievances and Pensions.
3. CBI is exempted from the provisions of the Right to Information Act.

Which of the above given statements is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

**Answer: C**

The Central Bureau of Investigation is not a statutory or constitutional body but derives its roots from the Delhi Special Police Establishment Act, 1946. Hence statement 1 is incorrect.

It is the premier investigating agency of India. It operates under the jurisdiction of the Ministry of Personnel, Public Grievances and Pensions. Hence statement 2 is correct.

CBI is exempted from the provisions of the Right to Information Act. As per section 24, nothing contained in the Act shall apply to intelligence and security organisations specified in the Second Schedule, being organisations established by the Central Government, or any information furnished by such organisations to that government. The CBI comes under the category of security organisations in the Second Schedule. Hence statement 3 is correct.

### Q3. Which one of the following statements is incorrect regarding the Parliamentary Committees?

- A. The origin of parliamentary committees can be traced back to the British Parliament, which influenced the Indian Constitution.
- B. Parliamentary committees aid in improving the quality of legislation, increasing executive responsibility, and strengthening the role of the opposition.
- C. Public Accounts Committee has all the members from Lok Sabha.
- D. The Estimates Committee examines the estimates of expenditure of various ministries and departments and suggests economies in public expenditure.

**Answer: C**

Option C is incorrect: In PAC, seven members are from Rajya Sabha and fifteen members are from Lok Sabha. Rajya Sabha does not have representation in the Estimates Committee. All 30 members are from Lok Sabha.

### Q4. Consider the following statements with regard to Article 371F of the Indian Constitution:

1. Legislative Assembly of the State of Sikkim shall consist of not less than forty members.
2. Only the descendants of Sikkim subjects (those who lived in the state before its merger with India) whose names were mentioned in the 1961 register are Sikkimese.

Which of the above-given statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Answer: B**

Legislative Assembly of the State of Sikkim shall consist of not less than forty members. There shall be allotted to the State of Sikkim one seat in the House of the People and the State of Sikkim shall form one parliamentary constituency to be called the parliamentary constituency for Sikkim. **Hence statement 1 is incorrect.**

According to Article 371F, only the descendants of Sikkim subjects (those who lived in the state before its merger with India) whose names were mentioned in the 1961 register are Sikkimese with rights to own land, get state government jobs. **Hence statement 2 is correct.**

**Q5. Consider the following statements with regard to Preventive detention:**

1. It occurs after an offence is actually committed, or an attempt has been made towards the commission of that crime.
2. Parliament has the exclusive power to enact a law for preventive detention for the reasons connected with defence, foreign affairs, or security of India.

**Which of the above-given statements is/are incorrect?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Answer: A**

Punitive detention, which means detention as a punishment for the criminal offence. It occurs after an offence is actually committed, or an attempt has been made towards the commission of that crime. On the other hand, preventive detention means a person's incarceration in advance to prevent any further possibility of the commitment of crime or its engagement. Preventive detention is, therefore, an action taken on the basis of apprehension that the person in

question might do some wrongful act. **Hence statement 1 is incorrect.**

Under Entry 9 of List I ( the Union List), Parliament has the exclusive power to enact a law for preventive detention for the reasons connected with defence, foreign affairs, or security of India. Under Entry 3 of List III ("Concurrent List"), both Parliament and State Legislature have powers to enact such laws for the reasons related to the maintenance of public order or the maintenance of supplies or services essential to the community. **Hence statement 2 is correct.**

**Q6. Consider the following statements with regard to the Ninth Schedule of the Constitution:**

1. The Ninth Schedule contains a list of state laws which cannot be challenged in court.
2. The schedule was not a part of the original constitution.

**Which of the above-given statements is/are incorrect?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2


**Answer: A**

The Ninth Schedule contains a list of central and state laws which cannot be challenged in courts. Currently, 284 such laws are shielded from judicial review. Most of the laws protected under the Schedule concern agriculture/land issues. **Hence statement 1 is incorrect.**

The Schedule became a part of the Constitution in 1951, when the document was amended for the first time. It was created by the new Article 31B, which along with 31A was brought in by the government to protect laws related to agrarian reform and for abolishing the Zamindari system. **Hence statement 2 is correct.**

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## 2. INTERNATIONAL RELATIONS

### 2.1 CPTPP

#### Context

- The United Kingdom signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

#### Details

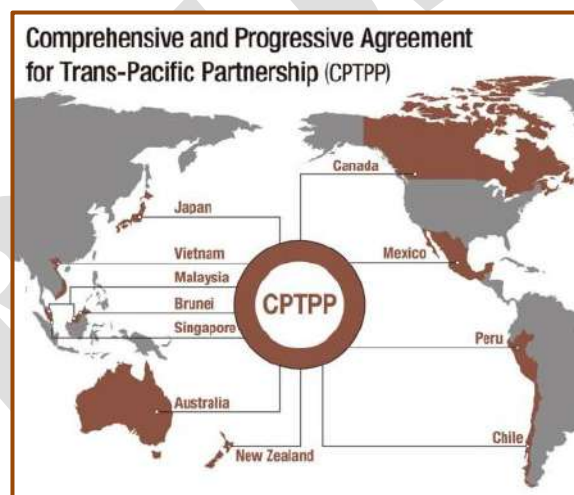
##### Significance of the Agreement for the UK

- The agreement would **result in zero tariffs on more than 99% of British exports**, including key markets such as cheese, vehicles, chocolate, machinery, gin, and whisky.
- The agreement serves as a "gateway" to the **Indo-Pacific region**, which will account for the majority (54%) of global economic development in the future.
- UK firms will not need to create a local office or be residents to supply services and will be allowed to compete with firms in host nations.

#### CPTPP

- It is a **trade agreement between 11 nations**: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.
  - They have **combined economies representing 13.4% of the Global Gross Domestic Product (GDP)**.
- It evolved from the **Trans-Pacific Partnership (TPP)**, which was never ratified due to the United States' withdrawal.

- The CPTPP proposal includes extremely detailed rules for investor protection, safeguards for the host state's regulatory authorities, and the application of stringent transparency norms.
- The bloc is home to more than 500 million people and will be worth 15% of global GDP once the United Kingdom joins.
- The CPTPP commission in 2023 is chaired by New Zealand.



#### India's Stand on CPTPP

- India has concluded that the **extensive economic concessions needed for joining CPTPP have far-reaching consequences**.
- India decided against joining the bloc as it imposes stricter labour and environmental laws on its members.

### 2.2 INDIA AND MALAYSIA RELATIONS

#### Context

- Malaysia and India have agreed to settle trade in Indian rupees.

#### Background

- The relations between the two nations have evolved, from ancient trade and migration to modern strategic partnership and cooperation.
- The colonial era saw the arrival of large

numbers of Indian migrants to Malaysia, mostly as indentured labourers for British plantations and railways.

- The **modern diplomatic relations between India and Malaysia were established in 1957**, following the Federation of Malaya's independence from British rule.
- The bilateral relationship between Malaysia and India is based on mutual respect, trust and cooperation in various fields, such as

trade, investment, defence, education, tourism, culture and people-to-people exchanges.

### Political Relations

- Both countries enjoyed a strong relationship in the 1960s as a result of the personal friendship between Prime Ministers Nehru and Tunku Abdul Rahman Putra.
- **The relations suffered a setback in the 1970s and 1980s due to Malaysia's support for Pakistan during the Indo-Pak wars and India's criticism of Malaysia's treatment of ethnic Indians.**

### Strategic Partnership

- The relations improved significantly in the 1990s and 2000s under the leadership of Prime Ministers Mahathir Mohamad and Manmohan Singh. **The two leaders agreed to establish a Strategic Partnership in 2010.**
  - The Strategic Partnership covers various domains of cooperation, such as trade and investment, defence and security, education and culture, tourism and health, science and technology, and people-to-people contacts.

### Recent

- In 2020, India implemented sanctions on Malaysian palm oil imports in response to comments from Malaysia's Prime Minister opposing the abolition of Kashmir's special status and the passage of the Citizenship Amendment Act.
- Under the New Prime Minister, Malaysia had signed a deal with India to import 100,000 tons of rice. In response, the Indian government lifted trade restrictions imposed on Malaysian palm oil imports.

### Economic Relation

- Malaysia has emerged as the **13th largest trading partner for India** while India figures among the ten largest trading partners for Malaysia.
  - Malaysia is also **India's 3rd largest trading partner in ASEAN.**
- The two countries signed a **Comprehensive Economic Cooperation Agreement (CECA)** in

**2011 that covers trade in goods and services, investment protection**, economic cooperation projects, etc.

- Presently, there are more than 150 Indian companies, including 61 Indian joint ventures and 3 Indian Public Sector Undertakings operating in Malaysia.

### Export

- **Major exported items from India to Malaysia** include minerals fuels, mineral oils & products, bituminous substances, and mineral waxes (US\$ 2,237.57 million); followed by organic chemicals (US\$ 510.27 million) in FY 2021-22.

### Imports

- **Major items imported by India from Malaysia** include animal or vegetable fats & oils & their cleavage products; animal vegetable waxes (US\$ 4,429.71 million); followed by minerals fuels, mineral oils & products, bituminous substances, mineral waxes (US\$ 1,344.66 million) in FY 2021-22.

### Security Relations

- Many members of **Malaysia's security forces have been trained in India since before the country's creation.**
- In response to growing Chinese influence, India has stated a desire to expand military and security cooperation with Malaysia.
- Since 2012, the Indian and Malaysian armies have held an **annual training event known as HARIMAU SHAKTI.**
- The Treaty on Mutual Legal Assistance in Criminal Matters was signed in 2012.
- An agreement on the Transfer of Sentenced persons is currently under discussion.

### Conclusion

- India and Malaysia are witnessing growing engagements in all aspects of bilateral relations. The two countries have regular high-level exchanges and dialogues on various platforms.
- The cultural and educational ties between India and Malaysia are also vibrant and diverse. The two countries have signed several agreements on cultural exchange, and

cooperation.

- The trade and economic relations between India and Malaysia are robust and dynamic.

The bilateral trade volume stands at \$10.5 billion in 2019-20 and is poised to reach \$25 billion by 2025.



**Why Malaysia is important for India?**

- Malaysia is one of the important countries for India's Look East Policy and Act East Policy, which aim to enhance India's engagement with the dynamic regions of Southeast Asia and East Asia.
- Malaysia is one of the major investors in India. Malaysian companies have invested in various sectors in India, such as infrastructure, construction, telecommunications, power, oil and gas, banking and healthcare.



## 2.3 ORGANISATION OF ISLAMIC COOPERATION (OIC)

### Context

- The OIC's remarks regarding the treatment of minorities in India were strongly criticized by the Indian government.

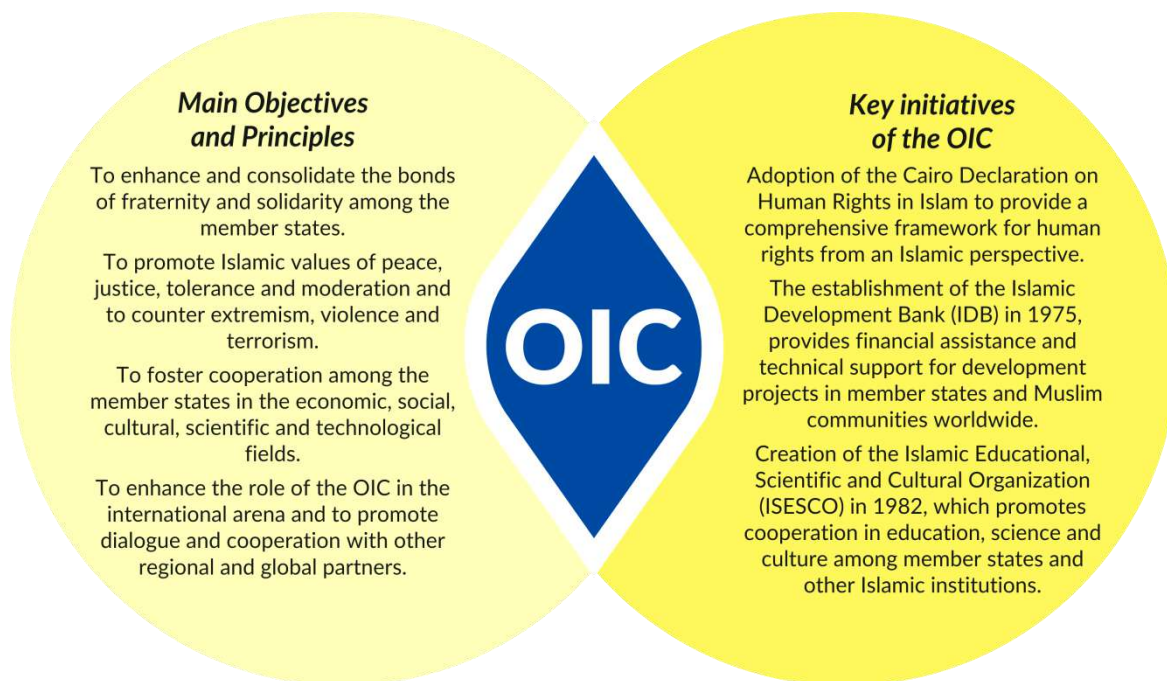
### Details

- Recently, the OIC has issued several statements criticising India for its policies and actions related to Kashmir and the Muslim community.
- The OIC has accused India of violating human rights, international law and UN resolutions in Kashmir, and of fostering Islamophobia, discrimination and violence against Muslims in India.
- The **Indian Government rejected the OIC statement as "unwarranted and narrow-minded"**. It also pointed out that it accorded the highest respect to all religions.
- The Indian Government has made it clear that it will not tolerate any interference or meddling in its internal affairs by any external entity.

### About OIC

- Organisation of Islamic Cooperation (OIC) is an **international organisation that consists of 57 member states**, most of which are Muslim-majority countries.
- It was **founded in 1969** to promote solidarity, cooperation and dialogue in the Muslim world.
- It seeks to safeguard and protect the interests of the Muslim community in various fields such as politics, economics, culture, science, education and human rights.
- It holds regular summits, ministerial conferences and meetings at various levels to discuss and coordinate policies and actions on matters of common concern.
- It has **observer status at the United Nations**.
- It has a **permanent secretariat based in Jeddah, Saudi Arabia**.





### Main Objectives and Principles

To enhance and consolidate the bonds of fraternity and solidarity among the member states.

To promote Islamic values of peace, justice, tolerance and moderation and to counter extremism, violence and terrorism.

To foster cooperation among the member states in the economic, social, cultural, scientific and technological fields.

To enhance the role of the OIC in the international arena and to promote dialogue and cooperation with other regional and global partners.

### Key initiatives of the OIC

Adoption of the Cairo Declaration on Human Rights in Islam to provide a comprehensive framework for human rights from an Islamic perspective.

The establishment of the Islamic Development Bank (IDB) in 1975, provides financial assistance and technical support for development projects in member states and Muslim communities worldwide.

Creation of the Islamic Educational, Scientific and Cultural Organization (ISESCO) in 1982, which promotes cooperation in education, science and culture among member states and other Islamic institutions.

## OIC and India

- India, which has the world's second-largest Muslim population, has a complex and contentious relationship with the OIC.
- India was invited to the founding conference of the OIC in Rabat, Morocco, in 1969, but was denied entry at the last minute due to Pakistan's opposition.
- Since then, India has been kept out of the OIC as a member or an observer, despite repeated attempts by some friendly countries like Bangladesh and Saudi Arabia to include it.
- **India was invited as a guest of honour to attend the 46th session of the OIC Council of Foreign Ministers in Abu Dhabi in 2019.** This was the first time that India was invited to an OIC meeting at such a high level.

### India's relation with OIC members

- Despite the differences over Kashmir, India has also engaged with some individual members of the OIC on various issues of mutual interest and cooperation.
- **India has developed close strategic and economic ties with some key OIC countries** like Saudi Arabia, UAE, Qatar, Oman, Bahrain, Kuwait, Turkey, Iran, Iraq, Afghanistan, Bangladesh, Indonesia, Malaysia and Egypt.
- India has also participated in some multilateral forums involving OIC members, such as the Heart of Asia-Istanbul Process on Afghanistan, the Indian Ocean Rim Association (IORA), and the Asia Cooperation Dialogue (ACD).

## Concern

- One of the main reasons for India's exclusion from the OIC is the Kashmir issue. **Pakistan has used the OIC platform to raise its allegations of human rights violations and atrocities by India in Jammu and Kashmir** and to seek support for its stance on the disputed territory.
- The OIC has often issued statements and resolutions condemning India's actions in Kashmir and calling for a peaceful resolution of the conflict under UN resolutions and the aspirations of the Kashmiri people.

### Stand of India

- India has rejected the OIC's interference in its internal affairs and questioned its locus standi on the Kashmir issue.

- India has maintained that Jammu and Kashmir are an integral part of India and that it is a bilateral matter between India and Pakistan that needs to be resolved through dialogue and diplomacy.
- India has also accused Pakistan of using the OIC as a tool to pursue its anti-India agenda and to spread misinformation and propaganda against India.

### Way Forward

- The relationship between India and the OIC remains fraught with challenges and opportunities.
- There is a **need for dialogue and cooperation between India and the OIC on issues of common concern** such as terrorism, extremism, climate change, poverty alleviation, trade, investment, energy security, cultural exchange and humanitarian assistance.
- There is a **need for mutual respect and understanding between India and the OIC** on issues of divergence such as Kashmir, human rights, minority rights and religious freedom.

### Conclusion

- India has always advocated for a pluralistic and inclusive approach to global affairs that respects diversity and sovereignty. The OIC has also expressed its commitment to promoting dialogue among civilizations and cultures based on mutual respect and tolerance.
- There is scope for building bridges between India and the OIC based on some shared values and principles. However, this would require overcoming historical mistrust and prejudice, as well as addressing current grievances and challenges.

## 2.4 SCOTLAND'S INDEPENDENCE DEMAND

### Context

- The British Prime Minister has rejected the demand for a second referendum on Scotland's independence.

### Details

- A large proportion of Scots consider independence from the United Kingdom as a matter of self-determination and identity.
- Scotland accounts for 8% of the population and economy of the United Kingdom, as well as one-third of its landmass.

### Why Increasing Demand for Independence?

#### Right to self-determination

- The Scottish National Party (SNP) government believes that citizens in Scotland should be able to vote on whether or not the country should be independent.
- To address concerns about Scotland's future after independence, the SNP has released White Papers outlining its vision for "creating a new Scotland."
- It also believes that the United Kingdom will make decisions in the future, such as Brexit,

that would harm Scottish interests.

#### Revenue from the North Sea

- A significant portion of its annual expenses is now covered by a block grant from the British government, which it hopes to compensate after it achieved independence with oil profits from the North Sea.
- It claims that instead of investing in North Sea oil income for future generations, the UK is utilising them to support present expenses, undermining Scots' interests.

#### Rejoining the EU

- It also intends to rejoin the EU, grow its trade within the bloc, and reap other benefits.

#### Scotland is different from the U.K

- In comparison to the UK, Scotland's election system is already more equitable and proportionally represented.
- It Supports a variety of topics, including more open immigration policy, a faster push for the green transition, free university education and geriatric care, higher-income taxation, and LGBTQ inclusion.



## UK Stand

### Lack of Future Planning

- The British government considers that the SNP has failed to provide a clear picture of how pensions and healthcare would function in an independent Scotland.

### Rejoining the EU

- The UK has also warned Scotland that rejoining the EU would result in the establishment of a hard border between Scotland and Britain.

### Debt

- It would be difficult for Scotland to absorb its share of the United Kingdom's national debt, which is in the billions of pounds.

## North Sea

- The decommissioning of North Sea oil would also have economic and commercial consequences for the United Kingdom.

## Conclusion

- Finding a solution for Scotland and the UK issue is not easy. It requires dialogue, compromise and respect between both sides. It also requires clarity, honesty and realism about what independence means for Scotland's relationship with the UK and the EU. Ultimately, it requires listening to what the people of Scotland want for their future.

## 2.5 NORTH ATLANTIC TREATY ORGANISATION (NATO)

### Context

- Finland joined the North Atlantic Treaty Organization (NATO), practically tripling the length of the alliance's border with Russia and strengthening its eastern frontier.

### Details

- Finland joined NATO on April 4, 2023, becoming the **31st member of the alliance**. This decision was influenced by several factors, such as;
  - The Russian invasion of Ukraine in 2022.
  - Finland's historical experience with Moscow
  - The changing nature of international geopolitics with a declining Russian influence.

### Reaction of Russia

- **Russia condemned Finland's NATO membership** as a dangerous historical mistake that would undermine regional stability and security.
- Russia accused Finland of abandoning its role as a bridge-builder and confidence-builder in Europe and becoming a pawn of the West.
- Russia also threatened to take counter-measures to protect its interests and security, including strengthening its military presence and capabilities in its western and northwestern regions.



### Finland's Policy of Neutrality

- Finland's decision to join NATO was a historic shift in its security policy that ended seven decades of military non-alignment.
- **Finland had long maintained a policy of neutrality and cooperation with both the West and Russia,**

dating back to the end of World War II when it signed a peace treaty with the Soviet Union.

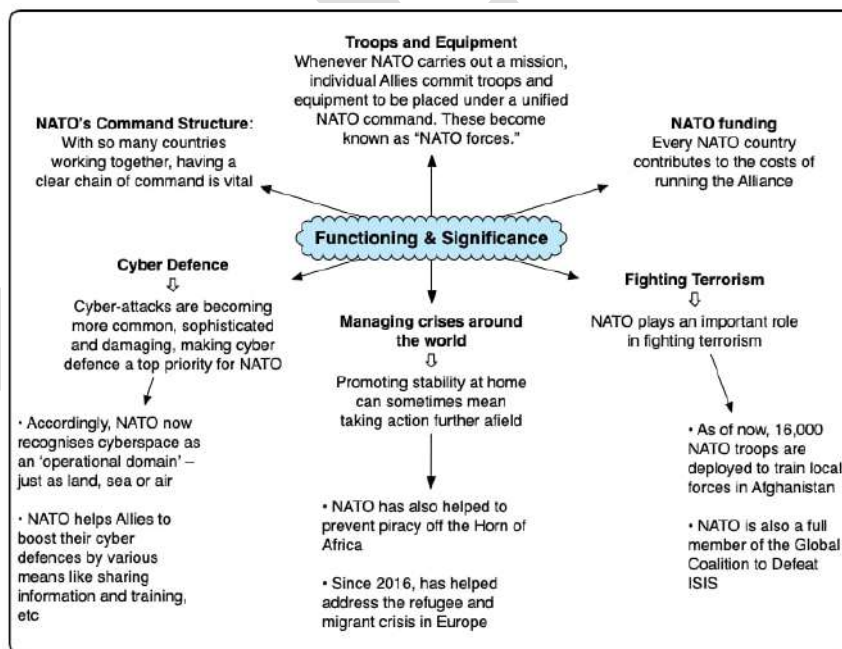
- Finland also joined the European Union in 1995, but remained outside of NATO, preferring to rely on its defence capabilities and bilateral partnerships.

### Why Finland Changed Its Policy?

- Finland's security environment changed dramatically after **Russia annexed Crimea in 2014 and its subsequent intervention in eastern Ukraine.**
- Finland, which shares a 1,340-kilometre border with Russia, became increasingly concerned about Moscow's aggressive behaviour and military modernisation.
- **Finland also faced cyberattacks, disinformation campaigns, and airspace violations from Russia.**
- Finland responded by strengthening its defence spending, enhancing its military readiness and interoperability, and deepening its cooperation with NATO and other Nordic and Baltic countries.
- Finland also participated in NATO-led missions and exercises and hosted NATO troops on its soil.
- Finland's public opinion also shifted in favour of NATO membership, especially after Russia's full-scale invasion of Ukraine in 2022.
- The main reason behind this move was the growing threat posed by Russia, which had invaded Ukraine in February 2022 and showed no signs of withdrawing its troops.

## NATO

- **NATO is a military alliance of 31 countries from Europe and North America.**
- It was **founded in 1949 to counter the threat of Soviet expansion after World War II.**
- The alliance is based on the principle of collective defence, meaning that an attack on one member is considered an attack on all.
- NATO also promotes democratic values and cooperates with other countries and organisations on security issues.



- The alliance also developed a political dimension, fostering dialogue and cooperation among its members and with other partners.
- The end of the Cold War in 1991 brought new challenges and opportunities for NATO.
- The alliance adapted to the changing security environment by enlarging its membership, engaging in crisis management and peacekeeping operations, and developing partnerships with former adversaries and other regions.
- NATO also responded to new threats such as terrorism, cyberattacks, and weapons of mass destruction.

### Challenges Faced by NATO

- NATO faces many current and future challenges that require collective action and adaptation.
- **The rise of China as a global power with growing military capabilities and ambitions that affect NATO's interests and values.**

- The persistent **threat of terrorism** from various groups and networks that operate across borders and regions.
- **The hybrid warfare tactics** used by state and non-state actors combine conventional, unconventional, cyber, and information warfare to undermine NATO's security and cohesion.
- The proliferation of weapons of mass destruction and their delivery systems pose a grave danger to NATO's populations and territories.
- The impact of climate change on NATO's security environment, such as increased natural disasters, resource scarcity, migration flows, and conflicts.
- The rapid development of new technologies offers both opportunities and challenges for NATO's defence and deterrence capabilities.



### Relation between India and NATO

India and the North Atlantic Treaty Organization (NATO) have been engaging in political dialogue since 2019, intending to explore areas of mutual interest and cooperation.

India's engagement with NATO does not mean that it will compromise its strategic autonomy or join any military alliance. India has made it clear that it values its independence and sovereignty in foreign policy decisions, and does not seek to align itself with any bloc or camp.

India's dialogue with NATO is primarily political in character and does not entail any commitment or obligation to military or other bilateral cooperation.

## 2.6 INDIA-CHINA BORDER DISPUTE

### Context

- India has rejected China's renaming of several locations in Arunachal Pradesh, claiming that "invented names" will not impact India's sovereignty over the territory.

### Details

- China recently named several Arunachal Pradesh locations, including two land areas, two residential areas, five mountain peaks, and two rivers.
- India strongly rejected China's intervention, and stated that Arunachal Pradesh is, has been, and will always be an integral and inalienable part of India.

### India-China Border

- China and India share a total of 3,488 kilometres of the border.
- **Five states share a border with China:** Jammu and Kashmir, Himachal Pradesh, Uttarakhand,

Sikkim, and Arunachal Pradesh.

### Border Dispute

- China questions the legality of the McMahon Line; the line agreed upon during the Simla Conference officially the 'Convention between Great Britain, China, and Tibet' in 1914.
- The border between China and India has never been defined. **The Line of Actual Control (LAC) divides Indian and Chinese-controlled territories. It is split into three sections:**
  - The Eastern Sector (Arunachal Pradesh and Sikkim)
  - The Middle Sector (Uttarakhand and Himachal Pradesh)
  - The Western Sector (Ladakh)
- India and China disagree about the LAC India consider the length of the LAC to be 3,488 kilometres, whilst China considers it to be only 2,000 kilometres long.

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### Western Sector

- There is a territorial dispute over Aksai Chin in this region. China says it is a part of Xinjiang, while India maintains it is a part of Kashmir.
- Johnson's Line and McDonald's Line were two proposed frontiers between India and China during the British era of administration in India.
  - The Johnson Line (made in 1865) places Aksai Chin in Jammu and Kashmir, under Indian administration, whereas the McDonald Line (recorded in 1893) places it under Chinese authority.
  - China views the McDonald Line as the legitimate boundary with India, whereas India considers the Johnson Line as the proper national border with China.
- The Line of Actual Control (LAC) currently separates the Indian territories of Jammu and Kashmir from Aksai Chin. It runs parallel to the Aksai Chin claim line in China.

### Middle Sector

- In this sector, India and China share a border that is approximately 625 km long and follows a watershed from Ladakh to Nepal.
- There is little dispute on any side regarding the border in this region.

### Eastern Sector

- It extends from the easternmost point of Bhutan to a location close to the Talu Pass where Tibet, India, and Myanmar converge.
- The McMahon Line is the name of this boundary.
- China claims that the Tibetan representatives who signed the 1914 Convention held in Shimla, which established the McMahon Line on the map, lacked the authority to do so and that the McMahon Line is therefore illegitimate and unacceptable.



### Dispute over LAC

- The Line of Actual Control (LAC) separates

Indian-controlled territory from Chinese-controlled territory.

- There are some disagreements concerning the positions where the LAC is aligned in the eastern sector along the 1914 McMahon Line.
- India rejected the LAC idea in 1959 and again in 1962.
- The Chinese declared in 1959 that they had retreated to a distance of 20 kilometres behind the LAC.
- In 2017, China requested India to abide by the "1959 LAC" during the Doklam dispute.

#### Stand of China

- China claims 90,000 square kilometres of Arunachal Pradesh as its territory.
- It describes the area as "Zangnan" in Chinese language and makes multiple references to "South Tibet."
- Arunachal Pradesh appears on Chinese maps and is sometimes referred to as the "so-called Arunachal Pradesh."
- China makes repeated efforts to highlight its unilateral claim to Indian Territory. Giving Chinese names to locations in Arunachal

Pradesh is part of that effort.

#### Stand of India

- India rejected the Chinese demarcation, claiming it was only a fragmented collection of points on a map that could be united in numerous ways.
- India's claim border is the line shown on maps produced by the Survey of India, which includes both Aksai Chin and Gilgit-Baltistan.

#### **Way Forward**

- To successfully defend its interests, **India must be alert to any new development in China along its borders.**
- India needs to strengthen infrastructure in challenging border areas within its territory to facilitate effective transportation of personnel and other logistical supplies.
- Border troops should continue their communication, maintain adequate distance, and reduce tensions.
- The two sides should follow all existing agreements and conventions on China-India boundary issues and avoid any action that could aggravate problems.

## 2.7 INTERNATIONAL BIG CATS ALLIANCE

### **Context**

- The Prime Minister of India launched the International Big Cat Alliance (IBCA) to conserve seven big cats: the Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma (Cougar).

### **Details**

- The **Prime Minister of India launched the International Big Cat Alliance (IBCA)** at the international event celebrating the 50th anniversary of Project Tiger on April 9, 2023, in Mysuru, Karnataka.
- The alliance's **objective is to reach out to 97 range countries** that include the natural habitats of the Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, and Cheetah.

### **About IBCA**

- It is a global initiative to protect and restore big cat populations and their habitats.
- It is a coalition of leading conservation organizations and experts that has launched the International Big Cats Alliance (IBCA).

### Objectives of IBCA

- Strengthening global efforts and partnerships on big cat conservation.
- Provide a platform for the convergence of knowledge and best practices.
- Supporting existing species-specific inter-governmental platforms.
- Providing direct support to recovery efforts in potential range habitats.

### The IBCA aims to achieve the following goals by 2030

- Increase the number and range of big cats by at least 50% from current levels.

- Secure at least 30% of big cat habitats under effective conservation management.
- Reduce the illegal trade and consumption of big cat parts and products by at least 80%.
- Enhance the coexistence and benefits of local communities living with big cats.
- Raise awareness and support for big cat conservation among governments, businesses and the public.

### Working Structure

- The IBCA is composed of more than 20 partner organizations, including the World Wildlife Fund (WWF), National Geographic Society, Global Wildlife Conservation (GWC) and others.
- It works closely with national governments, local communities, indigenous groups, the private sector and other stakeholders to implement effective conservation strategies across big cat range countries.
- The IBCA operates through four thematic working groups;
  - Science and Monitoring
  - Policy and Advocacy
  - Communication and Education
  - Fundraising and Resource Mobilization.

### Initiatives by IBCA

- Conducting comprehensive assessments of the status and trends of big cat populations and habitats using the latest scientific methods and technologies.

- Developing and implementing national and regional action plans for big cat conservation in collaboration with governments and other stakeholders.
- Supporting the establishment and management of protected areas, corridors and buffer zones for big cat habitats.
- Promoting best practices for mitigating human-wildlife conflict and enhancing community-based conservation initiatives.
- Strengthening law enforcement and anti-poaching efforts to combat illegal hunting and trafficking of big cats and their parts.
- Engaging with key consumer markets to reduce the demand for big cat products through awareness campaigns and behaviour change interventions.

### Conclusion

- The IBCA is a unique and ambitious initiative that brings together the collective expertise, experience and influence of some of the world's leading conservation organizations and experts.
- By working together under a common vision and framework, the IBCA hopes to achieve a lasting impact on big cat conservation that will benefit not only these magnificent animals but also the ecosystems they inhabit and the people who depend on them.

### About Big Cats

- Big cats can be found in Africa, Asia, North America, South America, Central America and Europe.
- They live in many different habitats, including grasslands, savannas, swamps, forests and mountain regions.
- They have diverse diets, ranging from antelopes and deer to rodents and fish.
- They play important roles in their ecosystems, regulating prey populations and maintaining ecological balance.

<b>Tiger</b>	<b>Lion</b>	<b>Asiatic Lion</b>	<b>Jaguar</b>	<b>Leopard</b>	<b>Snow leopard</b>	<b>Puma</b>	<b>Cheetah</b>	<b>Asiatic Cheetah</b>
Endangered	Vulnerable	Endangered	Near Threatened	Vulnerable	Vulnerable	Least Concern	Vulnerable	Critically endangered

## 2.8 FOREIGN POLICY OF SAUDI ARABIA

### Context

- Saudi Arabia, which had pursued an aggressive foreign policy in recent years to expand its influence in West Asia while undermining Iran, is now taking a radical turn.

### Details

- Saudi Arabia is reaching out to old rivals, making negotiations with new rivals and attempting to strike a balance between great powers, all while attempting to modernise its economy.
- If Saudi Arabia keeps maintains its foreign policy autonomy and promotes regional stability through diplomacy, it might have major consequences for West Asia.

### Background

#### Hostility towards Iran

- For many years, enmity towards Iran was the primary motivator of Saudi foreign policy. As a result, there have been proxy conflicts throughout the region.
- In Syria, Iran's only state ally in West Asia, Saudi Arabia joined forces with its Gulf allies, as well as Turkey and the West, to fund and arm the insurgency against Syrian President Bashar al-Assad.
- In Yemen, whose capital Sana'a was captured by Iran-backed Shia Houthi rebels in 2014, the Saudis began a bombing campaign in March 2015 that has yet to be formally ended.
- When the Saudis put a blockade on its smaller neighbour in 2017, one of the demands was for Qatar to cut connections with Iran. However, the blockade of Qatar failed in 2021.

### Key Pillars of Saudi Arabia's Foreign Policy

- Saudi Arabia is a key player in the Middle East and the wider Islamic world, with significant economic, political, and religious influence.
- The kingdom has been pursuing a foreign policy that reflects its interests, values, and aspirations, as well as its challenges and threats.
- Alliance with the United States, dates back to the 1940s and is based on mutual interests in oil, security, and stability.



- It has also faced some strains and disagreements over issues such as human rights, democracy, Israel-Palestine, and Yemen.
- The kingdom has sought to diversify its relations with other major powers, such as China, Russia, India, and Japan, to enhance its economic opportunities and strategic options.

**Leadership Role in the Arab and Islamic World**

- It has been a founding member of various regional organizations, such as the Arab League, the Gulf Cooperation Council (GCC), and the Organization of Islamic Cooperation (OIC).
- It has been a custodian of the two holy mosques in Mecca and Medina, which attract millions of pilgrims every year from across the Muslim world.
- It has also been a promoter of moderate Islam and a counterweight to extremist ideologies and groups.

**Pragmatism and adaptability**

- It has shown flexibility and willingness to adjust its policies and positions in response to new developments and challenges. For example;
- It has initiated dialogue and reconciliation with some of its former adversaries or rivals, such as Iraq, Syria, Qatar, Turkey, and Iran.
- It has also embraced some reforms and modernization efforts at home and abroad, such as allowing women to drive and granting citizenship to some foreigners.
- Supporting the Abraham Accords between Israel and some Arab states, and launching Vision 2030 to diversify its economy and society.

**Normalizing relations**

- After China-mediated negotiations, **Saudi Arabia announced a deal to normalise diplomatic relations with Iran.**
- There were indications that **Russia was mediating negotiations between Saudi Arabia and Syria**, which could result in Syria rejoining the Arab League before the next summit, which is set for May in Saudi Arabia.
- A Saudi-Omani delegation travelled to Yemen to negotiate a long-lasting agreement with the Houthi rebels.
- **Saudi Arabia is also attempting to strike a balance between;**
  - The United States; its major arms supplier.
  - Russia; its OPEC-Plus partner.
  - China; the region's rising superpower.



**Balancing Super Powers**

- Saudi Arabia, unlike most other American allies, refused to join anti-Russia sanctions.
- Despite the sanctions, Saudi Arabia and Russia have collaborated twice to restrict oil production to keep prices high, which benefits both Moscow and Riyadh.



- Saudi Arabia is now pursuing huge infrastructure projects aimed at modernising its economy and the Kingdom requires high oil prices to sustain those projects and accomplish its economic ambitions.
- It has also strengthened commercial and defence ties with China, and the Iran peace pact, mediated by China, signalled Beijing's entrance as a power broker in West Asia.
- Saudi Arabia has made \$35 billion in Boeing aircraft contracts and has begun conditional negotiations with the US to normalise relations with Israel.

**Energy**

Saudi Arabia is India's largest supplier of crude oil and LPG. According to the Indian Ministry of External Affairs, India imported around 18% of its crude oil requirement and 22% of its LPG requirement from Saudi Arabia in FY 2021-22.

Saudi Arabia has expressed its interest in investing in India's renewable energy sector, especially solar power.

**Trade**

Saudi Arabia is India's fourth largest trading partner after USA, China and UAE.

The bilateral trade between the two countries reached US\$ 42.8 billion in FY 2021-22, with India's exports to Saudi Arabia worth US\$ 8.76 billion and imports from Saudi Arabia worth US\$ 34.01 billion.

The main items of export from India to Saudi Arabia include mineral fuels, chemicals, machinery, cereals, iron and steel.

The main items of import from Saudi Arabia to India include mineral fuels, organic chemicals, fertilizers, plastics and aluminium.

The two countries have also established a Joint Working Group on Trade and Investment under the Strategic Partnership Council to explore new avenues of cooperation.

**Investment**

Saudi Arabia has identified India as one of the eight strategic partners for its Vision 2030, which aims to diversify its economy and reduce its dependence on oil revenues.

Saudi Arabia has committed to invest US\$ 100 billion in India over the next few years in various sectors such as infrastructure, energy, petrochemicals, agriculture and food security.

KEY PILLARS OF INDIA-SAUDI RELATIONS

### Policy Shift Impact on the Region

- Saudi Arabia's talks with Syria or with the Houthis cannot be viewed in isolation from the larger picture of Saudi-Iran peacemaking.
- If Syria rejoins the Arab League, it would be Mr Assad's official statement of victory in the civil war, and it would help normalise relations between Damascus and other Arab capitals.
- If the Saudis stop the Yemen war by reaching an agreement with the Houthis, Riyadh will have a quieter border but Tehran will be able to maintain its present influence in the Saudi backyard.
- Such accords may not significantly alter the region's security dynamics, but they may provide some stability throughout the Gulf.

### Is Saudi Arabia moving away from the U.S.?

- The United States, which has thousands of troops and military assets in the Gulf, would maintain a significant security presence in the region.
- The **United States continues to be Saudi Arabia's major defence provider**. With assistance from the United States and others, Saudi is also attempting to build advanced missile and drone capabilities to challenge Iran's advantage in these areas.

- At the same time, the Saudis recognise that the United States deprioritization of West Asia is affecting the region's post-war order.
- The **Saudi goal is not to de-Americanize West Asia. Rather, it is attempting to take advantage of America's weakness in the region to develop its autonomy by strengthening relationships with Russia and China** and rebuilding relations with regional countries without fully alienating the US.

### Conclusion

- Saudi Arabia's foreign policy is evolving and adapting to the changing regional and global dynamics. They are trying to balance their interests and values, alliances and partnerships, opportunities and challenges, and aspirations and realities.
- They are also trying to leverage their economic and diplomatic power while enhancing their military and security capabilities. However, it also faces many risks and uncertainties, such as domestic opposition, regional instability, international isolation, or external interference. Therefore, Saudi Arabia's foreign policy will likely continue to be pragmatic, flexible, and nuanced in the coming years.

## 2.8 YEMEN CIVIL WAR

### Context

- After eight years of brutal civil conflict in Yemen, in which hundreds of thousands of people have died as a result of violence and starvation, a fresh round of talks has raised a ray of hope for a resolution to one of the world's worst humanitarian crises.

### Details

- The negotiations taking place in Yemen's capital, Sana, bring together Saudi Arabia, which led a military coalition that intervened in Yemen in 2015 and the Houthis, Iran-backed rebels who control Yemen's capital and northwest.

### Yemen Civil War

#### About

- The war began in 2014, when a rebel group called the Houthis, backed by Iran, seized control of the capital Sanaa and other parts of the country.
  - The **internationally recognized government**, led by President Abd-Rabbu Mansour Hadi, **fled to Saudi Arabia and asked for military intervention.**
- A coalition of Arab states, led by Saudi Arabia and the United Arab Emirates, launched a campaign of airstrikes and ground operations against the Houthis, with support from the United States and other Western countries.
- The war has since become a proxy war between regional rivals Saudi Arabia and Iran, as well as a battleground for competing interests and ideologies.



- The war has also **affected regional stability and security**, as it has increased tensions between Saudi Arabia and Iran, as well as between the United States and Iran.

#### Situation in Yemen

- The war has also created a complex political and security situation in Yemen.
- The country is divided into areas controlled by different factions, such as;
  - The Houthis
  - The Government forces
  - The Southern Transitional Council (STC), a separatist group that seeks autonomy for southern Yemen
  - Various tribal and Islamist militias.
- The country is also facing threats from terrorist groups such as Al-Qaeda in the Arabian Peninsula (AQAP) and the Islamic State (IS), which have exploited the chaos and instability to carry out attacks and recruit fighters.

#### Humanitarian Crisis

- The war has had a devastating impact on the civilian population of Yemen.
- According to the United Nations, **more than 230,000 people have been killed**, over 20 million people need humanitarian assistance, and 16 million people face acute food insecurity.
- It has caused a humanitarian crisis that affects millions of people, especially children, who face starvation, disease, and violence.
- The war has also destroyed the country's infrastructure, health system, and economy.
- The country is facing outbreaks of cholera, diphtheria, and COVID-19, as well as a looming famine.

#### Human Rights Violation

- The war has also violated human rights and international humanitarian law, with reports of indiscriminate attacks on civilians, schools, hospitals, markets, and cultural sites.
- Both sides have been accused of committing war crimes and human rights abuses.

#### **Initiatives to resolve the conflict**

- The war has been widely seen as a stalemate, with no clear military victory for either side.
- Several attempts to negotiate a peaceful resolution have failed or stalled due to a lack of trust and political will.
- To end the bloodshed and suffering, peace talks have been held sporadically between the warring parties, with the support of the United Nations and other regional and international actors. However, these talks have often stalled or collapsed due to disagreements over key issues such as a nationwide ceasefire, prisoner exchange, humanitarian access, and political transition.

#### Stockholm Agreement

- The **Stockholm Agreement of 2018, called for a ceasefire** in the port city of Hodeidah, a prisoner exchange, and the formation of a joint committee to oversee the de-escalation of violence.
- The agreement has not been fully implemented or respected by both parties.

#### Muscat talks

- Peace talks began in March 2021 in Muscat, Oman.
- The Muscat talks have been described as "constructive" and "positive" by both sides and by UN Special Envoy for Yemen Martin Griffiths, who has been mediating between them.
- The talks have also been welcomed by regional and international stakeholders, such as Saudi Arabia, Iran, Oman, Qatar, Turkey, Russia, China, France, Germany, and the UK.

#### Saudi and Iran Peace Talks

- The war in Yemen has become a proxy war between regional rivals Saudi Arabia and Iran, who back different factions and have competing interests in the region. However, in recent months, there have been signs of hope for a possible resolution of the conflict.

- Saudi Arabia and Iran have reportedly engaged in direct talks to discuss ways to end the war and ease tensions in the region.
- **Mediated by Iraq and Oman:** The talks, which have been mediated by Iraq and Oman, are said to have covered issues such as security, trade, and diplomacy.
- The talks are also seen as a response to the change of administration in the United States, which has signalled a more diplomatic approach to the Middle East and a desire to revive the 2015 nuclear deal with Iran.

### Challenges and Obstacles to Peace Talk

- The **ongoing military escalation on several fronts**, especially in Marib province, where the Houthis have launched a major offensive to capture the last stronghold of the government in northern Yemen.
- The **lack of trust and goodwill** between the parties, as well as their divergent agendas and interests.
- The interference and influence of external actors, such as Saudi Arabia and Iran, who have competing interests and agendas in Yemen and the region.
- The **fragmentation and polarization** of Yemeni society along political, sectarian, regional, and tribal lines.
- The humanitarian situation and economic collapse have pushed millions of Yemenis to the brink of famine and disease.

### Way Forward

- The peace talks between Saudi Arabia and Iran are a welcome development that could pave the way for a political solution to the Yemen crisis. However, there are still many challenges and obstacles that need to be overcome before a lasting peace can be achieved.
- The talks need to involve all the parties to the conflict, including the Yemeni government, the Houthi rebels, and other local actors.
- The talks also need to address the root causes of the conflict, such as political grievances, economic inequalities, and social divisions.
- The talks need to be supported by the international community, which has a responsibility to provide humanitarian aid, monitor human rights violations, and enforce an arms embargo.

### Conclusion

- The war in Yemen has caused immense suffering and destruction for millions of people. It is time for all sides to put aside their differences and work together for a peaceful and prosperous future for Yemen and the region.
- Saudi Arabia and Iran have taken an important step towards dialogue and cooperation, but they need to follow it up with concrete actions and commitments. Peace is possible, but it requires courage, compromise, and compassion.

## 2.9 INDIA-UAE FOOD SECURITY PARTNERSHIP

### Context

- India and the UAE are working together to promote regional food security

### Details

- The United Arab Emirates (UAE), whose food security depends on imports from international markets, is now focusing on the twin goals of food access and resilience to deal with supply chain problems.
- India, the second-largest food producer in the world, is a crucial ally in the UAE's goal to increase food security.
- There are many areas where the India-UAE food security relationship can gain.

## India-UAE food security partnership

- It is a **strategic collaboration between two countries** that have different strengths and challenges in ensuring food security for their populations.
  - Food security is defined as the availability, accessibility, affordability, and quality of food for all people at all times.
- The partnership aims to leverage the complementarities of India and UAE in food production, processing, trade, and innovation to enhance their mutual food security and resilience.

### India

- India is the **world's second-largest food producer**, with vast arable land, a favourable climate, and a growing food sector.
- India has also demonstrated its role in advancing regional and global food security by providing humanitarian food aid to developing countries and investing in massive food parks and supply chain management.
- India runs the world's largest food subsidy programme, the Public Distribution System, and the world's largest nutrition programme, POSHAN Abhiyaan, to ensure food access and quality for its citizens.

### UAE

- UAE is **heavily dependent on food imports**, as it has limited arable land, water resources, and climatic conditions for agriculture.
- UAE has set the goal of achieving food access and supply chain crisis readiness by diversifying its food sources, enhancing its domestic production, and investing in food innovation and technology.
- UAE has also committed to building food parks in India, signing a food security corridor agreement, and launching Agriota, an agri-trading platform that connects Indian farmers to UAE's food ecosystem.

### Significance

- **UAE can serve as India's food export gateway to West Asia and Africa**, offering benefits beyond maintaining and diversifying its food reserves.
- India can gain from UAE's private sector projects that generate non-farm agri-jobs and provide better prices for farmers' products.
- Both countries can **collaborate on research and development** of new technologies and innovations for sustainable and resilient food systems.
- Both countries can showcase successful strategies and frameworks for food security in the Global South, especially during India's G-20 presidency.

## Challenges

- The volatility of global food prices and supply chains is due to factors such as climate change, conflicts, pandemics, and trade disputes.
- The **need to balance domestic food security interests with export-oriented policies** and agreements.
- The potential trade-offs between environmental sustainability and economic growth in the food sector.
- The regulatory and institutional barriers to effective cooperation and coordination between the public and private sectors of both countries.

## Initiatives need to be taken

### Diversifying the food basket

- India is one of the largest exporters of cereals, pulses and dairy products to the UAE, while the UAE is one of the largest suppliers of fruits, vegetables and fish to India.
- However, both countries **need to diversify their food basket to reduce their dependence on a few commodities and markets**, and to increase their resilience to price fluctuations and supply shocks.
- For instance, India can explore exporting more value-added products such as processed foods, organic foods and ready-to-eat meals to the UAE.

- While the UAE can invest in developing its domestic production of crops such as wheat, rice and barley.

#### Enhancing quality and safety standards

- To ensure that the food products traded between India and the UAE meet the quality and safety standards of both countries.
- This requires harmonizing the regulatory frameworks, certification procedures and testing protocols for food products, as well as strengthening the capacity of food authorities and laboratories in both countries.
- Both countries need to adopt best practices in food handling, storage and transportation to prevent contamination and spoilage.

#### Addressing trade barriers

- To remove or reduce the trade barriers that hinder the smooth flow of food products between India and the UAE. These include tariffs, quotas, subsidies, non-tariff measures and logistical bottlenecks.
- For example, India imposes a high import duty on dates from the UAE, while the UAE imposes a high export duty on rice from India.
- Both countries also face challenges in accessing each other's markets due to sanitary and phytosanitary measures, technical barriers to trade and intellectual property rights issues.
- Both countries need to improve their connectivity and infrastructure to facilitate faster and cheaper movement of food products.

#### **Conclusion**

- The India-UAE food security partnership has a lot of potential to benefit both countries in terms of enhancing their food security, diversifying their economies and strengthening their bilateral ties. However, it also requires concerted efforts from both governments and private sectors to address the challenges that may arise along the way. By doing so, both countries can reap the fruits of their cooperation and create a win-win situation for themselves and the region.
- The partnership can serve as a template for global food security cooperation that is based on mutual trust, respect, and benefit.

## 2.10 INDIA-THAILAND RELATIONS

#### **Context**

- 8th India-Thailand Defence Dialogue was held in Bangkok on 20th April 2023.

#### **Details**

- The meeting was co-chaired by the Special Secretary of the Ministry of Defence, India and the Deputy Permanent Secretary of the Ministry of Defence, Thailand.
- During the discussion, both parties expressed satisfaction over the two continuous defence cooperation.

#### India-Thailand Defense Dialogue (ITDD)

- It was established in 2012 as a platform for regular consultations and coordination on defence and security issues.
- It is co-chaired by the defence secretaries of both countries and covers a wide range of topics, such as



maritime security, counter-terrorism, cyber security, defence industry cooperation, joint exercises and training, humanitarian assistance and disaster relief, and regional security architecture.

- It has contributed to enhancing mutual trust and understanding between the two countries' defence establishments and armed forces.
- It has also facilitated the implementation of several concrete initiatives and projects that have strengthened their defence partnership.

#### Initiatives taken under ITDD

- The annual joint naval exercise "Indo-Thai CORPAT", aims to ensure maritime security and safety in the Andaman Sea and the Bay of Bengal.
- The annual **joint army exercise "Maitree"**, focuses on counter-insurgency and jungle warfare training.
- The annual **joint air force exercise "SIAM BHARAT"**, involves air-to-air and air-to-ground combat scenarios.
- The joint production of BrahMos supersonic cruise missiles, which are based on a Russian-Indian design and can be launched from land, sea or air platforms.
- The joint development of a medium-range surface-to-air missile system (MRSAM), which is based on an Israeli-Indian design and can intercept aerial targets up to 70 km away.
- The joint training of Thai pilots at the Indian Air Force Academy in Hyderabad.
- The exchange of defence personnel for education and training at various institutions in both countries.

### **India and Thailand Relations**

#### About

- India and Thailand share a long history of cultural, religious and linguistic ties that date back to ancient times.
- The two countries have also maintained close diplomatic relations since 1947 when Thailand became one of the first countries to recognize India's independence.
- India and Thailand are strategic partners in the Indo-Pacific region, with a shared vision of peace, stability and prosperity.

#### Bilateral relationship

- The bilateral relationship between India and Thailand has grown steadily over the years, covering various areas of cooperation such as trade, investment, defence, security, tourism, education, science and technology, culture and people-to-people exchanges.
- The **two countries have also established several institutional mechanisms to facilitate dialogue and coordination** at different levels, such as the Joint Commission Meeting (JCM), the Foreign Office Consultations (FOC), the Joint Working Group on Security Cooperation (JWGSC), the Joint Trade Committee (JTC) and the Joint Business Forum (JBF).

#### Economic Cooperation

- The two countries have a robust trade and investment relationship, with bilateral trade reaching \$10.6 billion in 2019-20.
- India is Thailand's 15th largest trading partner and **Thailand is India's 23rd largest trading partner**.
- The two countries are also part of the ASEAN-India Free Trade Area (AIFTA) and the Regional Comprehensive Economic Partnership (RCEP), which aim to enhance regional economic integration and connectivity.
- India and Thailand have also identified priority sectors for cooperation such as infrastructure, energy, pharmaceuticals, automobiles, textiles and gems and jewellery.

#### Defence and Security Cooperation

- The two countries have a strong defence partnership that includes regular joint exercises, training, consultations and exchanges at various levels.

- The annual joint military exercise Maitree, which started in 2006, is a flagship event that showcases the interoperability and camaraderie between the Indian Army and the Royal Thai Army.
- The two countries also conduct joint naval exercises such as Indra Navy and Coordinated Patrol (CORPAT), as well as joint air force exercises such as Garuda Shakti and Siam Bharat.
- India and Thailand also cooperate in counter-terrorism, maritime security, cyber security and intelligence sharing.

#### Cultural and people-to-people ties

- The two countries share a rich cultural heritage that is reflected in their art, architecture, literature, music, dance, cuisine and festivals.
- Buddhism is a major bond that connects the two peoples, as Thailand is home to over 95% of Theravada Buddhists and India is the land of origin of Buddhism.
- The two countries have collaborated in promoting Buddhist tourism and pilgrimage through initiatives such as the Buddhist Circuit Project and the International Buddhist Conclave.
- India and Thailand also have vibrant exchanges in education, science and technology, sports and media.
- There are over 250,000 people of Indian origin living in Thailand, who contribute to the social and economic fabric of both countries.

### Challenges

#### Pandemic Disruption

- The COVID-19 pandemic has disrupted the normal flow of trade, tourism, investment and people-to-people exchanges that have been the pillars of the bilateral relationship.
- The two countries have taken some measures to mitigate the effects of the pandemic, such as providing medical supplies and vaccines, facilitating repatriation flights and extending visa validity for stranded nationals.
- However, more needs to be done to restore the pre-pandemic level of cooperation and to explore new areas of collaboration in the post-pandemic scenario.

#### Changing Geopolitical Landscape

- Changing geopolitical landscape in the Indo-Pacific region, where both India and Thailand are key players.
- The rise of China and its assertive actions in the South China Sea, the Indian Ocean and beyond have raised concerns among many countries in the region.
- India and Thailand have a common interest in maintaining peace, stability and freedom of navigation in the Indo-Pacific region.
  - They also share a vision of a free, open and inclusive Indo-Pacific based on respect for international law and norms.
- There are also some divergences in their approaches and alignments with other regional actors, such as the US, Japan, Australia and ASEAN.
- The two countries need to find ways to harmonize their interests and perspectives and enhance their coordination and cooperation on regional issues.

### Suggestions to Increase Cooperation

- The way forward for India-Thailand relations lies in building on the existing foundations of trust, friendship and mutual benefit while addressing emerging challenges and seizing new opportunities.

#### Trade and investment

- The two countries should work towards concluding a comprehensive free trade agreement that covers goods, services and investment.
- They should also leverage their respective strengths and complementarities in sectors such as infrastructure, energy, digital economy, innovation and startups.



### Connectivity

- The two countries should expedite the implementation of connectivity projects that link India with Thailand and beyond, such as the India-Myanmar-Thailand Trilateral Highway, the Kaladan Multi-Modal Transit Transport Project and the Mekong-India Economic Corridor.
- They should also enhance their air, maritime and digital connectivity to facilitate trade, tourism and people-to-people exchanges.

### Defence and security

- The two countries should strengthen their defence cooperation through regular dialogues, exercises, training and exchanges.
- They should also expand their cooperation in non-traditional security areas such as counter-terrorism, cyber security, maritime security and humanitarian assistance and disaster relief.

### Culture and people-to-people ties

- The two countries should celebrate their shared cultural heritage and promote greater awareness and appreciation of each other's culture, art, literature and cuisine.
- They should also encourage more exchanges and interactions among their youth, academics, media, civil society and parliamentarians.

### **Conclusion**

- India-Thailand face common opportunities and challenges in a rapidly changing world. The two countries have a shared interest in maintaining regional peace and stability, enhancing connectivity and cooperation among Indo-Pacific countries, combating global threats such as terrorism, climate change and pandemics, and promoting sustainable development and inclusive growth.

## **2.11 SUDAN CONFLICT**

### **Context**

- At least 185 people have been killed and 1,800 more, including fighters, have been injured in Khartoum, Sudan's capital since violent fighting erupted between the country's army and paramilitary forces.

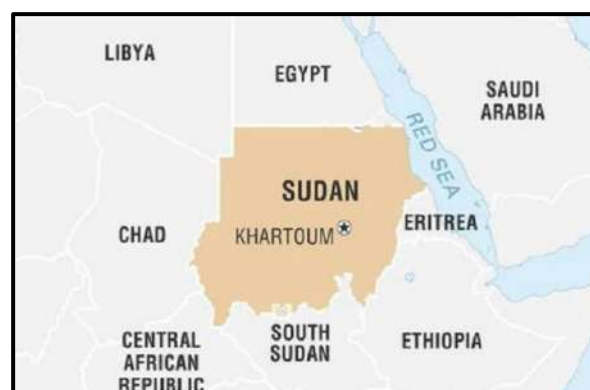
### **Details**

- Clashes erupted following weeks of heightened tensions between the Rapid Support Forces (RSF), a paramilitary group led by Mohamed Hamdan Dagalo – commonly known as Hemedti – and the military, led by Lt Gen Abdel Fattah al-Burhan.
- The two generals disagree over the proposed transition to civilian rule in Sudan.

### **Sudan Conflict**

- Sudan is a country in Northeast Africa that has been plagued by violence and instability for decades.

- The conflict in Sudan has multiple causes and actors, making it difficult to resolve and understand.



### First Sudanese civil war

- The **root of the Sudan conflict can be traced back to the colonial era when Britain and Egypt jointly ruled Sudan as a condominium.**
  - The colonial powers favoured the Arab-dominated north over the African south, creating economic and political disparities that fueled resentment and mistrust.

- **After Sudan gained independence in 1956, the South rebelled against the central government, demanding more autonomy and representation. This sparked the first Sudanese civil war, which lasted until 1972.**

#### Second Sudanese civil war

- The peace agreement that ended the first civil war was short-lived, as the discovery of oil in the south reignited tensions over resource distribution and political power.
- In 1983, the second Sudanese civil war broke out, pitting the Sudan People's Liberation Army (SPLA) in the south against the Islamist government of Omar al-Bashir in Khartoum.
- The war was one of the longest and deadliest in Africa's history, claiming over two million lives and displacing millions more.
- The second civil war also involved other regions of Sudan, such as Darfur, where ethnic African groups rebelled against the Arab-dominated government in 2003.
- The government responded with a brutal counterinsurgency campaign, supported by Arab militias known as Janjaweed.
- The violence in Darfur resulted in genocide, with an estimated 300,000 people killed and millions displaced.
- The international community intervened to stop the atrocities and broker a peace deal, but the situation remains fragile and volatile.

#### Comprehensive Peace Agreement (CPA)

- In 2005, after years of negotiations and pressure from regional and international actors, the **Comprehensive Peace Agreement (CPA) was signed** between Khartoum and the SPLA, ending the second civil war and granting autonomy to the South.
- The CPA also stipulated that a referendum would be held in 2011 to determine whether the South would secede or remain part of Sudan.
- The referendum resulted in an overwhelming vote for independence, and **South Sudan became the world's newest country in July 2011.**

#### The secession of South Sudan

- **The secession of South Sudan did not end the conflict in Sudan, as many issues remained**

**unresolved between** the two countries, such as border disputes, oil revenues, debt sharing, and citizenship rights.

- Both countries faced internal challenges and divisions that threatened their stability and security.
  - In Sudan, al-Bashir's regime faced popular protests and armed rebellions from marginalized regions such as Darfur, South Kordofan, and Blue Nile.
  - In South Sudan, a power struggle between President Salva Kiir and his former deputy Riek Machar triggered a civil war in 2013 that killed tens of thousands of people and displaced millions more.

#### 2019 Military Coup

- In 2019, a historic change occurred in Sudan when al-Bashir was ousted by a military coup after months of mass demonstrations against his rule.
  - The protesters demanded a civilian-led transition to democracy and justice for the victims of al-Bashir's crimes.
- **A power-sharing agreement was reached between the military and civilian forces, forming a transitional government that is supposed to pave the way for free and fair elections by 2023.** However, many challenges remain for Sudan's democratic transition, such as the economic crisis, security threats, social divisions, and external interference.

#### Sovereign Council

- The army and the RSF are both part of the Sovereign Council, a joint civilian-military body that was formed in 2019 after a popular uprising toppled the long-time dictator Omar al-Bashir.
- The Sovereign Council is supposed to lead Sudan to democratic elections by 2023, but its members have been divided over the pace and direction of the political transition.
- The army, led by General Abdel Fattah al-Burhan, has been accused of trying to consolidate its power and delay the reforms, while the RSF, led by General Mohamed Hamdan Dagalo (also known as Hemeti), has

been seeking more influence and recognition for its role in supporting the uprising.

### Recent Conflict

- **Sudan is facing a new wave of violence and instability as its army and paramilitary forces clash over the control of the transitional government.**
- The conflict erupted when the army attempted to arrest the leader of the Rapid Support Forces (RSF), a powerful militia that has been accused of human rights abuses and war crimes in Darfur and other regions.
  - The RSF resisted the arrest and launched a counterattack, seizing key buildings and roads in the capital Khartoum and other cities.
  - The army responded by deploying tanks and troops to confront the RSF, sparking fierce battles that have left dozens of people dead and hundreds injured.

### Conclusion

- The current crisis has exposed the fragility of Sudan's transition and the **deep mistrust between its civilian and military components.**

It has also raised fears of a return to civil war and dictatorship in a country that has suffered decades of conflict, poverty and repression.

- It remains unclear whether the army and the RSF can resolve their differences peacefully or whether they will continue to fight for power at the expense of Sudan's stability and democracy.
- The conflict in Sudan is a complex and ongoing crisis that has profound implications for the region and the world. It requires sustained attention and support from all stakeholders to achieve lasting peace and stability.

## Operation Kaveri

- A large diaspora of around 3,000 Indian nationals living and working in Sudan.
- India has launched a massive evacuation operation to bring back its citizens. The operation was dubbed 'Operation Kaveri'.



## 2.12 AUTOMATIC EXCHANGE OF INFORMATION (AEOI) FRAMEWORK

### Context

- India is pushing to widen the scope of the common reporting standard (CRS) at the G20 grouping to include non-financial assets like real estate properties under the automatic exchange of information among OECD countries.

### Details

- Indian representative stated at the meeting of the 'Asia Initiative of the Global Forum on Transparency and Exchange of Information for Tax Purposes' that there is a **need to broaden the scope of AEOI so that the information can be used not only to check tax evasion but also for other non-tax law enforcing purposes.**
- The study 'Tax Transparency in Asia 2023' was released during the conference.

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The OECD (Organisation for Economic Co-operation and Development) is an international organisation that works to promote policies that improve the economic and social well-being of people around the world.

It provides a forum where governments can share experiences and seek solutions to common problems.

It produces data, analysis and recommendations on a wide range of topics, such as education, health, environment, trade, taxation and development.

It publishes reports including the Economic Outlook, the Education at a Glance, the Environmental Performance Reviews and the PISA (Programme for International Student Assessment) reports.

It was founded in 1961 by 20 countries that wanted to cooperate on economic recovery and development after World War II. Today, the OECD has 38 member countries and several partner countries and organisations.

The OECD's headquarters are in Paris, France.



The G20 was established in 1999 as a response to the Asian financial crisis. Since then, it has evolved into a key forum for global economic governance and coordination.

The G20 accounts for about 80% of the world's gross domestic product (GDP), 75% of global trade, and 60% of the world's population.

The G20 presidency rotates annually among its members. The host country sets the agenda and organizes the summit and related meetings.

The current president of the G20 is India, which will host the G20 summit in New Delhi in September 2023. The theme of the summit is "One Earth, One Family, One Future".

## Automatic Exchange of Information (AEOI) framework

### About

- The framework was **developed by the OECD** and endorsed by the G20 to exchange financial account information between tax authorities.
- It is **based on the Common Reporting Standard (CRS)**, which sets out the rules and procedures for the reporting and exchange of information. It provides a model agreement and a standard format for the exchange of information.
- It requires the **annual exchange of information on financial accounts held by non-resident individuals** and entities in a pre-defined format.
  - The information exchanged includes details about the financial account, such as the account number, balance, and income, and details about the account holder, such as their name, address, date of birth, and taxpayer identification number.
- As of May 2023, more than 160 jurisdictions have committed to implementing the AEOI framework, and over 100 jurisdictions have already started exchanging information automatically under the CRS.

### Objectives

- To **prevent tax evasion and ensure tax compliance** by providing transparency and cooperation among jurisdictions.
- It requires jurisdictions to obtain information from their financial institutions and automatically exchange it with other jurisdictions on an annual basis. The information includes the identity, residence, account balance and income of account holders.

### Significance

- It enables tax authorities to access relevant information to verify the tax status of their residents and enforce their tax laws.

- It reduces the administrative burden and costs for taxpayers who have to report their foreign income and assets.
- It creates a level playing field for all taxpayers and enhances trust and confidence in the international tax system.

## Indian and AEOI framework

### About

- India has committed to implementing the AEOI framework from 2017 onwards and has signed bilateral agreements with 96 jurisdictions for this purpose.
- **India has also joined the Multilateral Competent Authority Agreement (MCAA) on AEOI**, which is a multilateral framework agreement that allows for the exchange of information with multiple jurisdictions without requiring a separate bilateral agreement with each one.
- India is also pressing for expanding the scope of the CRS to include non-financial assets, such as real estate properties, under the AEOI framework, as these assets also pose a risk of tax evasion and illicit financial flows.

### Significance for India

- Improving tax compliance by deterring offshore tax evasion and encouraging voluntary disclosure of foreign assets and income by Indian taxpayers.
- Enhancing revenue collection by enabling better detection and assessment of undisclosed foreign income and assets.
- Strengthening international cooperation and trust by demonstrating India's commitment to global standards of transparency and accountability.
- Promoting a level playing field for domestic and foreign investors by reducing the scope for arbitrage and unfair competition.

### Challenges for India

- **Ensuring data security and confidentiality of the exchanged information**, especially in light of cyber threats and data breaches.
- **Managing the increased volume and complexity of data received** from various jurisdictions may require upgrading the IT infrastructure and human resources of the tax authorities.
- **Addressing the potential mismatches and gaps** in the information exchanged due to differences in legal definitions, reporting periods, and exchange formats among jurisdictions.
- **Resolving the disputes and issues** that may arise from the interpretation and application of the AEOI framework, such as double taxation, non-compliance, and abuse.

### Steps taken by India to ensure effective implementation of the AEOI framework

- **Enacting legislative amendments** to provide a legal basis for receiving and using the exchanged information for tax purposes.
- **Issuing detailed guidelines** and notifications for financial institutions to comply with their due diligence and reporting obligations under the CRS.
- **Establishing a dedicated unit** within the Central Board of Direct Taxes (CBDT) to coordinate and monitor the AEOI process.
- **Developing a secure online portal** for receiving and transmitting information with other jurisdictions.
- **Providing training and awareness programs** for tax officials and financial institutions on various aspects of the AEOI framework.

## Conclusion

- India's participation in the AEOI framework reflects its willingness to adopt global best practices and standards in tax administration. The AEOI framework is expected to enhance India's tax base, revenue collection, and international reputation in the long run. However, it also requires continuous efforts from

all stakeholders, including the government, financial institutions, taxpayers, and civil society, to ensure its smooth functioning and optimal outcomes.

## 2.13 CHINA'S OUTREACH IN CENTRAL ASIA

### Context

- China hosted a meeting of trade ministers from the C+C5 group, which includes China and five Central Asian republics: Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan.

### Details

- China hosted an online meeting of trade ministers from the C+C5 group to enhance economic cooperation and regional integration.
- They discussed various topics, such as trade facilitation, e-commerce, investment promotion, industrial development, and connectivity.
- They exchanged views on the impact of the COVID-19 pandemic on trade and economic recovery.

### Outcome

- According to a joint statement issued after the meeting, the trade ministers agreed to deepen their cooperation under the framework of the Belt and Road Initiative (BRI) and the Regional Comprehensive Economic Partnership (RCEP).
- They expressed their support for multilateralism and the rules-based trading system.
- They pledged to work together to promote peace and stability in the region, especially in Afghanistan.

### China and Central Asia

#### About

- China and Central Asia have a long history of trade, culture, and people-to-people links that date back to the ancient Silk Route.
- The region, which consists of five republics: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, is strategically important for China's security, economic, and diplomatic interests.

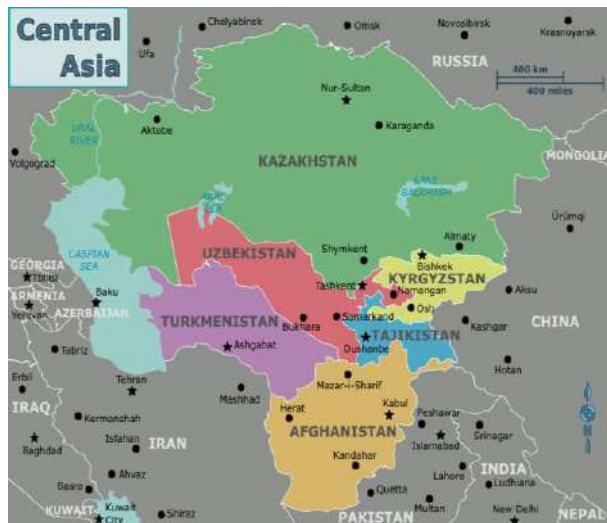
### Security

- **China shares borders with three Central Asian countries**, namely Kazakhstan, Kyrgyzstan, and Tajikistan.
  - These countries are also home to a large number of ethnic Uighurs, who have cultural and linguistic ties with the Uighur minority in China's Xinjiang region.
- **China is concerned about the potential spillover of extremism**, separatism, and terrorism from Central Asia to Xinjiang, which has witnessed violent unrest and crackdowns in recent years.
- China has sought to enhance its security cooperation with Central Asia through bilateral and multilateral mechanisms, such as the Shanghai Cooperation Organization (SCO), which was established in 2001 by China and the four Central Asian countries (excluding Turkmenistan).
  - The SCO focuses on combating the "three evils" of terrorism, separatism, and extremism, as well as promoting regional stability and development.

### Economic

- **Central Asia is rich in natural resources**, such as oil, gas, uranium, gold, and hydropower, that are vital for China's energy security and industrial development.
- China is the largest trading partner and investor in the region, with a trade volume of over \$50 billion in 2021.
- **China also launched the Belt and Road Initiative (BRI) in 2013**, which aims to connect Asia, Europe, and Africa through infrastructure projects and economic corridors.
  - Central Asia is a key component of the BRI, as it provides China with overland access to markets in Europe and West Asia.
  - China has invested heavily in building pipelines, railways, roads, ports, power

- plants, and industrial parks in Central Asia under the BRI framework.
- China has also established a trade bloc called C+C5 with the five Central Asian countries in 2020 to boost economic cooperation and integration.



- China seeks to balance its interests with those of other major powers in the region, such as Russia, India, Turkey, and the US.
- China has initiated various platforms for dialogue and cooperation with Central Asia, such as the China-Central Asia Foreign Ministers' Meeting, the China-Central Asia Cooperation Forum, and the C+C5 Summit.
- China has also provided assistance to Central Asia in fighting the COVID-19 pandemic and promoting social development.

## India and Central Asia

### About

- India's relations with Central Asia are based on shared historical, cultural and civilisational links as well as common interests and challenges in the contemporary world.
- India views Central Asia as part of its extended neighbourhood and a region of strategic significance.
- India has established diplomatic relations with all five Central Asian countries - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan - and has developed bilateral and multilateral mechanisms for cooperation in various fields.

### Diplomatic

- China has developed friendly and comprehensive relations with Central Asia since the establishment of diplomatic ties in 1992.

## KEY AREAS OF COOPERATION BETWEEN INDIA AND CENTRAL ASIA



### Security

- India and Central Asia face common threats from terrorism, extremism, drug trafficking and instability in Afghanistan.
- India has supported the sovereignty, territorial integrity and independence of the Central Asian countries and has cooperated with them in counter-terrorism, defence and intelligence sharing.
- India has also provided training and capacity building to the security forces of the Central Asian countries under various programmes such as ITEC (Indian Technical and Economic Cooperation) and IAFS (India-Africa Forum Summit).
- India has also maintained a military presence in Tajikistan since 2002, where it operates a hospital and an airbase.



### Trade and Investment

- India and Central Asia have a huge potential for trade and investment, given their complementarities in resources, markets and technologies. However, the trade volume between them remains low due to a lack of connectivity, infrastructure and banking facilities.
- India's main exports to Central Asia are pharmaceuticals, machinery, textiles, tea and coffee, while its main imports are oil, gas, minerals, metals and chemicals.
- India has also invested in some sectors such as hydrocarbons, mining, agriculture, IT and health care in Central Asia.
- India is also exploring new avenues for cooperation such as renewable energy, space technology, tourism and education.



### Connectivity

- Connectivity is a key factor for enhancing trade, investment and people-to-people contact between India and Central Asia.
- India has been pursuing various initiatives to improve its connectivity with Central Asia through land, sea and air routes.
- International North-South Transport Corridor (INSTC):** It is a multi modal transport network that connects India with Iran, Russia, Azerbaijan, Armenia and Central Asia through rail, road and sea routes.
  - It aims to reduce the time and cost of transportation of goods between India and Eurasia.
- Chabahar Port:** This is a strategic port in Iran that provides India access to Afghanistan and Central Asia bypassing Pakistan.
  - India has invested in developing this port and has also operationalised a trade route from Chabahar to the Zaranj-Delaram highway in Afghanistan.
- Ashgabat Agreement:** This is a regional transit agreement that facilitates the movement of goods between Iran, Oman, Turkmenistan, Uzbekistan, Kazakhstan and Pakistan.
  - India joined this agreement in 2018 to enhance its connectivity with Central Asia via Iran.
- Air Corridors:** India has established air corridors with Afghanistan (2017) and Uzbekistan (2019) to boost trade in perishable goods such as fruits, and vegetables.

## Conclusion

- China and Central Asia have forged a close partnership based on mutual benefit and common interests. The two sides have cooperated in various fields such as security, economy, culture, health, and education. However, there are also challenges and frictions in their relations, such as public resentment over China's growing influence and presence in the region; human rights

issues related to Xinjiang; environmental and debt risks associated with BRI projects; and geopolitical competition from other actors.

- China and Central Asia need to maintain regular communication and consultation; enhance mutual trust and understanding; address each other's concerns and grievances; respect each other's core interests; and seek win-win solutions for regional peace and prosperity.

## 2.14 NUCLEAR LIABILITY

### Context

- Germany has recently shut down the last of its nuclear power reactors. With solar and wind power growing more popular around the world, there are questions about whether nuclear power, with its inherent issues of cost and safety, is still a viable option for a fossil-free future, particularly in India.

### Global Outlook for Nuclear Power Plants

#### About

- Nuclear power accounted for about 10% of global electricity production in 2020.
- According to the International Atomic Energy Agency (IAEA), there were 442 operational nuclear power reactors in 32 countries as of December 2020, with a total installed capacity of 392 gigawatts (GW).
- The IAEA also reported that there were 53 reactors under construction in 19 countries, with a total capacity of 56 GW.
  - China had the largest number of reactors under construction (17), followed by India (7) and Russia (6).
- The IAEA estimates that nuclear power will provide between 8.5% and 14.4% of global electricity generation by 2050, depending on the scenario.
  - The future of nuclear power depends on several factors, such as technological innovation, policy support, market conditions, environmental concerns, and social preferences.

### Indian Outlook for Nuclear Power Plant

#### About

- India has a growing demand for electricity and a commitment to reduce its dependence on fossil fuels. Nuclear power is seen as a viable option to meet these goals, as it can provide clean, reliable and affordable energy.

#### Present Status

- India has 23 nuclear reactors in operation, with a total installed capacity accounting for about 3% of its total electricity generation.
- India also has 7 reactors under construction.
- India plans to increase its nuclear capacity to 22 GW by 2031 and 63 GW by 2050.

#### India's three-stage nuclear fuel cycle

- India's nuclear power program is largely based on indigenous technology and resources, as it has faced international sanctions and restrictions due to its nuclear weapons program.
- India has developed a three-stage nuclear fuel cycle, which aims to utilize its abundant thorium reserves as a source of fuel for advanced reactors.
- **1st Stage:** Involves using natural uranium in pressurized heavy water reactors (PHWRs), which produce plutonium as a by-product.
- **2nd Stage:** Involves using plutonium in fast breeder reactors (FBRs), which produce more plutonium and some uranium-233.
- **3rd Stage:** Involves using uranium-233 in thorium-based reactors, which can generate more energy and minimize radioactive waste.



## Nuclear liability

### About

- Nuclear liability is the legal responsibility for the consequences of a nuclear incident, such as a reactor accident, a radioactive release, or a nuclear terrorist attack.
- Nuclear liability is a complex and controversial topic, as it involves balancing the interests of various stakeholders, such as the nuclear industry, the public, the victims, the governments, and the international community.

### Challenges

- **Adequate Compensation:** To ensure adequate compensation for the victims of a nuclear incident, while also providing incentives for the nuclear industry to operate safely and securely.
  - The compensation should cover not only the immediate damages, such as health effects, property loss, and environmental remediation, but also the long-term impacts, such as economic losses, social disruption, and psychological trauma.
- **Legal Framework:** To establish a clear and consistent legal framework that applies to all potential scenarios of a nuclear incident.
  - It should define the scope of liability, the amount and distribution of compensation, the procedures and mechanisms for claims settlement, and the role and obligations of different parties.
  - It should also be harmonized across national borders, as a nuclear incident may affect multiple countries and regions.

### International conventions and agreements

- The Paris Convention on Third Party Liability in the Field of Nuclear Energy (1960) and its supplementary protocols.
- The Vienna Convention on Civil Liability for Nuclear Damage (1963) and its amendments.
- The Convention on Supplementary Compensation for Nuclear Damage (1997).
- The Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (1988).

- The Brussels Convention is Supplementary to the Paris Convention (1963) and its amendments.

### Common principles in all the conventions and agreements

- Strict liability of the operator of a nuclear installation for any nuclear damage caused by its activities.
- Limitation of liability in amount and time for the operator.
- Exclusive jurisdiction of the courts of the state where the nuclear incident occurred.
- Establishment of a compensation fund financed by contributions from the contracting parties.
- Recognition and enforcement of judgments among the contracting parties.

### Limitations of these conventions and agreements

- The low level of compensation compared to the potential magnitude of a nuclear incident.
- The lack of universal participation and compatibility among different regimes.
- The exclusion or restriction of certain types of damage or victims.
- The uncertainty and ambiguity in some definitions and interpretations.
- The insufficient coordination and cooperation among different actors.

### Steps need to be taken for

- Increasing the level and scope of compensation to reflect the actual costs and impacts of a nuclear incident.
- Expanding the membership and harmonizing the standards and rules of different regimes.
- Including or enhancing the protection of certain types of damage or victims, such as environmental damage or non-contracting states.
- Clarifying and resolving some contentious issues and disputes in the application and implementation of existing conventions and agreements.
- Strengthening the collaboration and communication among different stakeholders, such as governments, industry, civil society, and international organizations.

- It provides for a **right of recourse for the operator against the supplier** for a period of five years from the date of commissioning of

Nuclear Energy	
Pros	Cons
<ul style="list-style-type: none"> <li>▪ Production of large amounts of energy</li> <li>▪ Quite efficient power source</li> <li>▪ Nuclear energy is not affected by outside conditions</li> <li>▪ No fossil fuels required in nuclear energy production</li> <li>▪ Local job creation</li> <li>▪ Rather inexpensive compared to other power sources</li> <li>▪ Relatively low levels of greenhouse gas emissions</li> <li>▪ Nuclear energy is a quite reliable power source</li> <li>▪ Pollution from nuclear power is rather low</li> <li>▪ Nuclear energy as complement to solar or wind energy</li> <li>▪ May be important during the energy transition process</li> </ul>	<ul style="list-style-type: none"> <li>▪ High initial construction costs of nuclear power plants</li> <li>▪ Construction of power plants often takes many years</li> <li>▪ Nuclear waste has to be treated quite carefully</li> <li>▪ High costs to get rid of radioactive waste</li> <li>▪ Nuclear energy is not entirely renewable and sustainable</li> <li>▪ Mining of uranium can be dangerous</li> <li>▪ Transportation of radioactive materials is risky</li> <li>▪ Nuclear accidents</li> <li>▪ Cyber attacks</li> <li>▪ Terroristic attacks on nuclear power plants</li> <li>▪ Nuclear wars</li> <li>▪ High long-term costs</li> </ul>

### Nuclear liability law in India

- India is **one of the few countries in the world that has a nuclear liability law that holds the suppliers of nuclear equipment and services liable for any nuclear accident.**
- The **Civil Liability for Nuclear Damage Act, 2010 (CLNDA)** was enacted by the Indian Parliament after the 2008 Indo-US nuclear deal to facilitate the entry of foreign nuclear companies into the Indian market.
- The CLNDA has also been a source of controversy and debate, as it deviates from the international norms and conventions on nuclear liability, and imposes stringent and unlimited liability on the suppliers.

#### Main features of the CLNDA

- It establishes a **no-fault liability regime**, which means that the victims of a nuclear accident do not have to prove negligence or fault on the part of the operator or the supplier to claim compensation.
- **It fixes the liability of the operator at Rs. 1500 crore per nuclear incident** and allows the operator to recover the same amount from the supplier if the accident is caused by defective equipment or services provided by the supplier.

the nuclear plant, or the duration of the contract between them, whichever is longer.

- It empowers the **central government to increase or decrease the operator's liability limit**, and to assume full or partial liability for a nuclear incident in certain circumstances.
- It **creates a Nuclear Damage Claims Commission (NDCC)** to adjudicate claims arising out of a nuclear incident and provides for an appeal to the Supreme Court of India.
- It allows for civil suits in courts only if they are filed within three years from the date of knowledge of the nuclear incident.

#### Criticism

- It violates the principle of legal channeling of liability, which is followed by most countries and international conventions on nuclear liability. According to this principle, only the operator of a nuclear facility is liable for any nuclear accident, and not the supplier.
- It does not provide adequate compensation to the victims of a nuclear accident, as it caps the operator's liability at a low amount compared to other countries.
- It does not cover non-economic losses such as pain and suffering, loss of consortium, and environmental damage.

- It does not ensure a speedy and fair settlement of claims, as it creates a complex and bureaucratic mechanism for adjudication.
- It does not provide alternative dispute resolution methods such as arbitration or mediation, which may be more efficient and amicable than litigation.

### Conclusion

- Nuclear liability is not only a legal issue but also a political, economic, social, and ethical

one. It reflects the values and interests of different groups and societies in relation to nuclear energy. It also influences the development and prospects of nuclear energy in terms of its safety, security, sustainability, and acceptability. Therefore, it is important to have an informed and balanced discussion on this topic, taking into account its benefits and risks, opportunities and challenges, rights and responsibilities.

## 2.15 INDIA AND SHANGHAI COOPERATION ORGANISATION (SCO)

### Context

- In April 2023, the Chinese and Russian defence ministers attended a ministerial meeting of the Shanghai Cooperation Organization (SCO) in Delhi.

### Details

- The ministerial meeting of the Shanghai Cooperation Organization (SCO) is an important opportunity for dialogue and coordination among the SCO members on regional security issues.

#### The outcome of the meeting

- Adoption of a joint statement on strengthening defence cooperation within the SCO framework.
- Commitment by the SCO members to **respect each other's sovereignty, territorial integrity and national interests**, as well as to refrain from interfering in each other's internal affairs.
- Enhancing mutual trust and transparency in military affairs, conducting joint exercises and training, sharing information and best practices, and developing mechanisms for crisis prevention and management.
- Expressed support for multilateral efforts to maintain global strategic stability and uphold international law.
- **Announcement of a joint military exercise to be held later this year in Kazakhstan. The exercise, named Peace Mission 2023, will involve troops from all eight SCO members,**

as well as observers from Afghanistan, Belarus and Mongolia.

### Shanghai Cooperation Organization (SCO)

#### About

- SCO is a Eurasian political, economic, international security and defence organization.
- It is the world's largest regional organization in terms of geographic scope and population, covering approximately;
  - 60% of the area of Eurasia
  - 40% of the world's population
  - More than 30% of the global GDP

#### Background

- The SCO was established in 2001 by China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan as a successor to the Shanghai Five group that was formed in 1996.
- The SCO aims to promote mutual trust, cooperation and stability among its members and to address regional and global challenges.
- The SCO has expanded its membership with India and Pakistan joining in 2017.
- Several other countries are engaged as observers or dialogue partners;
  - 4 Observer States are interested in acceding to full membership: Iran, Afghanistan, Belarus, and Mongolia.
  - 6 Dialogue Partners: Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka, Turkey.
- SCO Charter was signed in 2002 and entered into force in 2003, it is the fundamental

document that defines the goals, principles,

structure and functions of the organization.

### Working Structure

<p><b>Heads of State Council</b></p>	<ul style="list-style-type: none"> <li>• The SCO is governed by the Heads of State Council (HSC), its supreme decision-making body, which meets once a year.</li> <li>• The HSC determines the priorities and main areas of activities of the organization, decides on fundamental issues of its internal arrangement and functioning, and considers the most topical international issues.</li> <li>• The HSC also appoints the Secretary-General and the Director of the Regional Anti-Terrorist Structure (RATS) Executive Committee.</li> </ul>
<p><b>4 Permanent bodies</b></p>	<ul style="list-style-type: none"> <li>• The Secretariat in Beijing, China.</li> <li>• The RATS Executive Committee in Tashkent, Uzbekistan.</li> <li>• The Council of Ministers of Foreign Affairs.</li> <li>• The Council of Heads of Government.</li> </ul>
<p><b>Subsidiary bodies</b></p>	<ul style="list-style-type: none"> <li>• The SCO also has several subsidiary bodies that deal with specific fields of cooperation, such as security, economy, culture, education, health, science and technology.</li> <li>• The SCO holds regular meetings and consultations at various levels and conducts joint exercises and projects.</li> </ul>

### Significance

- **Political dialogue:** The SCO holds regular summits and meetings at different levels to exchange views on regional and international issues of common interest and to coordinate policies and actions.
  - The SCO also engages in dialogue and cooperation with other regional and international organizations, such as the United Nations, the Association of Southeast Asian Nations (ASEAN), the European Union (EU) and the Organization for Security and Co-operation in Europe (OSCE).
- **Security cooperation:** The SCO conducts joint exercises and training to enhance the capabilities of its member states to combat terrorism, extremism, separatism, drug trafficking, cybercrime and other threats.
  - The SCO also has a Regional Anti-Terrorist Structure (RATS) based in Tashkent, Uzbekistan, which facilitates information sharing and joint actions against terrorist groups.
- **Economic cooperation:** The SCO promotes trade and investment among its member

states and supports the development of regional infrastructure projects, such as; the China-Pakistan Economic Corridor (CPEC), the China-Central Asia-West Asia Economic Corridor (CCWAEC) and the International North-South Transport Corridor (INSTC).

- The SCO also cooperates with other regional initiatives, such as the Belt and Road Initiative (BRI) and the Eurasian Economic Union (EAEU).
- **Cultural cooperation:** The SCO fosters people-to-people exchanges and mutual understanding among its member states through various activities, such as cultural festivals, sports events, youth camps, media forums and educational programs.
  - The SCO also supports the preservation and promotion of the diverse cultural heritage of the region.

### Indian and SCO

#### About

- India has been a full member of the Shanghai Cooperation Organization (SCO) since 2017.
- India's participation in the SCO is driven by its strategic interests in Central Asia and Eurasia,

as well as its desire to balance China's growing influence in the region.



### Significance for India

- A platform to **enhance its connectivity and trade with Central Asian countries**, which are rich in natural resources and markets.
- **Cooperate with other SCO members on counter-terrorism**, anti-drug trafficking and regional stability, especially in Afghanistan.
- **Enhancing its connectivity and access to the energy-rich Central Asian countries**, especially through the International North-South Transport Corridor (INSTC) and the Chabahar port in Iran.
- **Strengthening its counter-terrorism cooperation** with the SCO members, especially in the context of the rise of extremist groups in Afghanistan and Pakistan.
- **Expanding economic and trade ties with the SCO members**, especially China and Russia, which are India's largest trading partners.
- **Promoting its vision of an inclusive and multipolar Asia**, where all countries have equal rights and responsibilities for regional peace and stability.

### Challenges for India

- India's membership in the SCO also poses some challenges and dilemmas for its foreign policy.
- Manage its relations with China and Pakistan, which are both rivals and partners in the SCO.
- Balance its commitment to the SCO with its alignment with other groupings such as the Quad and the Indo-Pacific.

- Deal with the divergent views and interests of the SCO members on some issues, such as Iran's nuclear program, Syria's civil war and Myanmar's political crisis.
- India has to also ensure that its involvement in the SCO does not undermine its strategic autonomy or its ties with other partners, such as the US, Japan and Australia.

### Way Forward for India

- India's role and contribution to the SCO will depend on how it navigates the challenges and opportunities.
- India needs to demonstrate its willingness and ability to engage constructively with other SCO members on areas of common interest, while also articulating its vision and values for the region.
- Leverage its strengths and assets, such as its soft power, its diaspora and its technological prowess, to enhance its profile and influence in the SCO.
- Pursue a pragmatic and flexible approach that allows it to cooperate with some SCO members on some issues while competing or disagreeing with others on other issues.
- Build trust and confidence with other SCO members, especially China and Pakistan, through dialogue and cooperation.
- Explore synergies between the SCO and other regional platforms, such as SAARC, BIMSTEC and ASEAN. India and the SCO can work together to address common challenges and opportunities in Eurasia and beyond.

### **Conclusion**

- The Delhi meeting was a significant step in strengthening the SCO as a platform for dialogue and cooperation on regional and global issues. It also demonstrated the commitment of China and Russia, as well as other SCO members, to uphold multilateralism and international law, and to foster a new type of international relations based on mutual respect, equality, and win-win cooperation.

## 2.16 SHORT ARTICLES

### Language Friendship Bridge

#### Context

- The Indian Council for Cultural Relations intends to establish a pool of experts in 10 languages from neighbouring countries and others having a shared cultural heritage with India.

#### About

- India intends to establish a pool of experts in languages spoken in Myanmar, Sri Lanka, Uzbekistan, and Indonesia to improve people-to-people relations.
- The Indian Council for Cultural Relations (ICCR) has planned a special project named 'The Language Friendship Bridge,' which will train five to ten people in each of these countries' official languages.
- The ICCR has chosen ten languages as of now: Kazakh, Uzbek, Bhutanese, Ghoti (spoken in Tibet), Burmese, Khmer (spoken in Cambodia), Thai, Sinhalese, and Bahasa (spoken in both Indonesia and Malaysia).

#### Implementation

- ICCR is discussing the project's implementation with colleges and institutes, as well as professionals giving foreign language education in the country.

- According to the sources, there are two possibilities.
  - To establish collaborations in which teachers from these nations travel to India to offer courses.
  - Provide scholarships to Indian students who wish to study these languages in their native countries.

#### Significance

- The project will enable India to translate its epics and classics, as well as contemporary literature, into these languages so that people in both countries can read them and appreciate each other's culture.
- It reflects India's interest in expanding its cultural footprint in nations with whom it has historical ties and also recognises the importance of promoting language learning and cultural understanding to strengthen ties with neighbouring countries.
- The project will create a pool of experts who can facilitate better people-to-people exchanges, academic collaborations, cultural dialogues, business opportunities and diplomatic engagements between India and these countries.
- The project will also help India showcase its soft power and its role as a responsible and benevolent neighbour in the region.

<p><b>Indian Council for Cultural Relations (ICCR)</b></p>	<ul style="list-style-type: none"> <li>It is an autonomous organisation of the Union Ministry of External Affairs, that was established in 1950 to promote India's cultural relations with other countries.</li> <li>It was founded by Maulana Abul Kalam Azad, the first Education Minister of independent India.</li> <li>The ICCR administers various scholarship programs, cultural exchanges, conferences, seminars, exhibitions, publications and awards to foster mutual understanding and appreciation of diverse cultures and traditions.</li> <li>The ICCR also collaborates with various international organisations such as UNESCO, SAARC, ASEAN and BRICS to enhance cultural cooperation and dialogue.</li> <li>The ICCR offers more than 3000 scholarships annually under 21 different schemes to foreign students from about 180 countries.</li> <li>The ICCR is committed to promoting India's rich and diverse culture and heritage to the world through its various activities and programs.</li> </ul>
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## Role of Culture and language international relations

- Culture and language are vital elements of international relations. They can facilitate or hinder communication and cooperation among nations and peoples.
- By understanding their importance and implications, we can leverage their strengths and overcome their weaknesses.
- By embracing their diversity and complexity, we can foster a more peaceful and prosperous world.

### How to enhance the role of culture and language in international relations?

- **Learn about other cultures and languages:** This can help us to broaden our horizons, enrich our knowledge, and develop our intercultural competence. We can learn from various sources, such as books, media, online platforms, or personal contacts.
- **Communicate with other cultures and languages:** This can help us to express ourselves clearly, listen actively, and exchange ideas effectively. We can communicate through various channels, such as face-to-face conversations, phone calls, emails, or social media.
- **Respect other cultures and languages:** This can help us to appreciate the diversity and uniqueness of each culture and language, and to recognize their value and contribution to humanity. We can respect others by being open-minded, curious, tolerant, and empathetic.
- **Collaborate with other cultures and languages:** This can help us to work together towards common goals, solve problems creatively, and achieve positive outcomes. We can collaborate through various modes, such as projects, partnerships, networks, or initiatives.

### Way Forward

- The Language Friendship Bridge is a project that aims to connect language learners with native speakers of their target language.
- It is a way of celebrating the diversity and richness of human languages and promoting intercultural dialogue and respect. It is a way

of building bridges instead of walls, fostering cooperation instead of conflict, of creating harmony instead of discord.

- The project is an example of how India is leveraging its cultural diplomacy to foster mutual understanding and cooperation with other countries. It is also evidence of India's vision of building a peaceful and prosperous neighbourhood based on shared values and interests.

## **Energy Charter Treaty**

### Context

- Denmark is working to withdraw from the Energy Charter Treaty.

### Background

- The **Energy Charter Treaty (ECT)** is an international agreement that aims to promote cooperation and investment in the energy sector among its signatories.
- The treaty, which entered into force in 1998, covers both fossil fuels and renewable energy sources and grants investors the right to sue governments over policies that affect their investments.

### Criticism

- However, **the ECT has come under increasing criticism in recent years for being outdated and incompatible with the global efforts to combat climate change.**
- Many environmental groups and civil society organisations have argued that the ECT protects fossil fuel interests and enables corporations to challenge climate policies in secretive arbitration tribunals.
- In response to these concerns, several European Union (EU) countries have announced their plans to exit the ECT, either individually or collectively.
  - The latest country to join this trend is Denmark, which declared that it is working towards withdrawing from the treaty.

### Energy Charter Treaty (ECT)

- The ECT was **signed in 1994 by 51 countries and the European Union**, to promote energy

security and integration in Eurasia after the end of the Cold War.

- It is an international agreement that establishes a multilateral framework for cross-border cooperation in the energy industry, principally the fossil fuel industry.
- The treaty **covers all aspects of commercial energy activities including trade, transit, investments and energy efficiency.**
- The treaty also contains dispute resolution procedures that allow investors to sue states for alleged breaches of their obligations under the treaty.

### Challenges

- **Outdated:** The treaty has been **criticized for being outdated, unbalanced and incompatible with the global efforts** to combat climate change and transition to a low-carbon economy.
- **Protect fossil fuels investments:** One of the main criticisms of the ECT is that it protects fossil fuel investments from regulatory changes that could affect their profitability, such as carbon taxes, subsidies for renewable energy or coal phase-outs.
  - This creates a chilling effect on states' ability to implement ambitious climate policies and exposes them to the risk of costly arbitration claims by foreign investors.
- It does not adequately address the environmental and social impacts of energy activities, nor does it promote a sustainable and inclusive energy transition.
- **The treaty does not include any binding commitments** on greenhouse gas emissions reduction, human rights protection, environmental standards or public participation.
- The treaty does not reflect the diversity and innovation of the energy sector today, as it largely ignores new technologies and business models such as distributed generation, energy efficiency services or demand-side management.

### Steps taken to reform

- In light of these shortcomings, several countries and organizations have called for reform or withdrawal from the ECT.
- In 2018, the European Commission launched a process to modernize the treaty, with proposals to align it with the Paris Agreement on climate change, strengthen its provisions on sustainable development and transparency, and limit its scope to exclude fossil fuels.
- However, the negotiations have faced resistance from some parties who are reluctant to change the status quo or lose their privileges under the treaty.
- As a result, some EU member states such as France, Spain, Italy and Germany have announced their intention to leave the ECT if no satisfactory outcome is reached by 2023.

### Conclusion

- The ECT is therefore facing a critical moment in its history, as it risks becoming irrelevant or even harmful to the energy transition.
- The treaty needs to be reformed or replaced by a new agreement that reflects the current and future challenges and opportunities of the energy sector, and that supports rather than hinders the global efforts to achieve a low-carbon and sustainable future.

## **Rohingya Crisis**

### Context

- The UN Court of Justice denied the Myanmar dictatorship's request for a 10-month extension to file a counter-memorial or reply to The Gambia's claim that Myanmar violated the UN Genocide Convention.

### Details

- The case involves the Myanmar military's "clearing" operations in Rakhine state in 2017, during which many Rohingya were killed or subjected to atrocities, forcing thousands to escape to Bangladesh.



## Rohingya crisis

### About

- The Rohingya crisis is a humanitarian disaster that has displaced more than a million people from their homes in Myanmar.

- The Rohingya are Muslim minority groups that have faced persecution, discrimination and violence for decades by the Myanmar government and military, as well as by some Buddhist extremists.

## Rohingya

The Rohingya are predominantly Muslim ethnic groups who have lived in Rakhine State, Myanmar, for centuries.

They have faced decades of discrimination and marginalization by the Myanmar authorities.

They are denied citizenship, access to basic services, freedom of movement and other fundamental rights.

They have also been subjected to repeated outbreaks of violence by the Myanmar security forces and Buddhist extremists, who view them as illegal immigrants from Bangladesh.



### 2017 Genocide

- The crisis escalated in 2017 when a militant group called the Arakan Rohingya Salvation Army (ARSA) attacked several police posts in Rakhine state, prompting a brutal crackdown by the security forces that killed thousands of civilians, burned hundreds of villages and forced hundreds of thousands to flee across the border to Bangladesh.
- The United Nations has accused Myanmar of committing genocide and ethnic cleansing against the Rohingya, while Myanmar's leader Aung San Suu Kyi has denied these allegations and defended her country's actions.

### Migration

- In 2017, a brutal military crackdown forced more than 700,000 Rohingya to flee their homes and seek refuge in neighbouring countries, mainly Bangladesh.
- The Rohingya refugees in Bangladesh live in overcrowded and unsanitary camps, where they face many challenges such as lack of

food, water, health care, education and protection.

- UNICEF and other humanitarian agencies are working to provide them with basic services and support, but they also need a durable solution that would allow them to return to their homeland with dignity and rights.

### India's Response to the Rohingya Crisis

#### Inconsistent and Controversial

- On one hand, **India has provided humanitarian assistance to Bangladesh** and has urged Myanmar to end the violence and restore normalcy in Rakhine state.
- On the other hand, India has also declared its intention to deport over 40,000 Rohingya refugees who are living in different parts of the country, citing security concerns and legal grounds.

#### No Refugee Policy

- **India does not have a specific law or policy on refugees** and is not a signatory to the 1951 UN Refugee Convention or its 1967 Protocol.

- India deals with refugees on a case-by-case basis, depending on their origin, religion and political affiliation.
  - India has granted legal status and rights to some refugees, such as Tibetans and Sri Lankans, while denying them to others, such as Afghans and Rohingyas.

### Concerns

- The Rohingya crisis is not only a humanitarian tragedy but also a threat to regional stability and security.
- **Fuel Radicalization:** The prolonged displacement and despair of the Rohingya could fuel radicalization and extremism among some segments of the population, creating opportunities for terrorist groups to recruit and operate in the area.
- **Regional Tension:** The crisis could also exacerbate tensions and conflicts between Myanmar and Bangladesh, as well as other neighbouring countries that host or transit Rohingya refugees, such as India, Malaysia, Indonesia and Thailand.
- **Undermine Democracy:** The crisis could undermine the prospects for democracy and human rights in Myanmar, which has been undergoing a fragile transition from military rule since 2011.
- The Rohingya crisis is also a test of the international community's commitment to uphold the principles of human dignity, justice and accountability.

### Conclusion

- The Rohingya crisis is a significant issue that deserves more attention and action from all stakeholders. The Rohingya people have suffered enough and deserve a dignified and peaceful future.
- The region needs a durable solution that addresses the root causes of the conflict and ensures the safe, voluntary and dignified return of the refugees to their homes in Myanmar with full citizenship rights and protection.
- The world needs to show solidarity and responsibility in supporting the humanitarian response and pursuing justice for the victims of this crisis.

## United Nations Capital Development Fund

### Context

- The Atal Innovation Mission (AIM), NITI Aayog, and the United Nations Capital Development Fund (UNCDF) have collaborated to publish a whitepaper.

### Details

- The Atal Innovation Mission (AIM), NITI Aayog, and the United Nations Capital Development Fund (UNCDF) have released a whitepaper aiming at making India a global leader in agritech innovation and expanding these ideas to Asia and Africa's least developed countries.

### Significance of the whitepaper

- The whitepaper provides the key findings and solutions needed to address agriculture sector difficulties and promote sustainable practices that benefit smallholder farmers in developing nations.
- The paper provides concrete methods for Agri-Tech start-ups to overcome hurdles and accelerate their growth on a national and worldwide scale.

### United Nations Capital Development Fund (UNCDF)

#### About

- It was established in 1966 by the **UN General Assembly**.
- It is a specialized agency of the United Nations that works to promote inclusive and sustainable development in the least developed countries.
- Its work is aligned with the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda on Financing for Development.
- It operates in 47 countries across Africa, Asia, and the Pacific, with a special focus on the 33 least developed countries and 14 small island developing states.

#### Objectives

- Empower millions of people by 2030 to escape poverty and achieve their potential.
- To unlock public and private finance for the poor in the least developed countries.

- Supports public and private sector initiatives that create opportunities for people to improve their lives and communities.

### Working Model

- The UNCDF is funded by voluntary contributions from member states, multilateral institutions, foundations, and private sector partners.
- Providing innovative financing models that leverage domestic resources and attract additional public and private funding.
- Strengthening local capacities and institutions to manage and allocate resources effectively and transparently.
- Supporting local actors to design and implement solutions that address their specific challenges and opportunities.

### Key initiatives

- **Local development finance:** UNCDF helps local governments and communities access finance for infrastructure, basic services, climate resilience, and local economic development.
- **Inclusive digital economies:** UNCDF supports digital innovations that expand access to financial and other services for low-income people, especially women, youth, migrants, and refugees.
- **Blended finance:** UNCDF blends its capital with that of other investors to de-risk and catalyze investments in sectors such as renewable energy, agriculture, health, education, and housing.
- **Crisis response and recovery:** UNCDF provides rapid and flexible financing to help countries cope with shocks such as natural disasters, pandemics, conflicts, and displacement.

### Conclusion

- UNCDF plays a vital role in supporting LDCs to overcome their structural challenges and achieve their development goals. By catalysing capital flows and enhancing local capacities, UNCDF helps the LDCs to reduce poverty, improve livelihoods, protect the environment, and foster resilience.
- UNCDF also works closely with other UN agencies, development partners,

governments, civil society, the private sector, and academia to leverage synergies and maximize impact.

## **United Nations Democracy Fund (UNDEF)**

### Context

- India, as a founding member of UNDEF, has no issues with the Fund making grants to NGOs supported by George Soros, despite the fact that he is on India's watch list, highlighting an old conflict.

### Details

- George Soros, the billionaire investor and philanthropist, has recently sparked controversy in India with his remarks on the Prime Minister of India and business tycoon Gautam Adani.
- Soros's comments have angered the Indian government and its supporters, who have labelled him as "old, rich, opinionated and dangerous".
- They have also questioned his motives and credibility, and his funding of various NGOs and human rights groups around the world.

### About UNDEF

- It is a unique initiative that supports democracy and human rights around the world.
- It was **established in 2005 by former UN Secretary-General Kofi Annan, to provide grants to civil society organizations and other non-state actors that promote democratic values and practices.**

### Objectives

- To empower people, especially those who are marginalized or vulnerable, to participate in the democratic process and to demand accountability from their governments.
- To support projects **that strengthen the voice of civil society**, promote the rule of law and human rights, enhance gender equality and women's empowerment, foster pluralism and tolerance, and encourage civic education and awareness.

### Working

- Since its inception, **UNDEF has funded over 800 projects in more than 100 countries**, covering a wide range of themes such as electoral assistance, media development, youth engagement, anti-corruption, transitional justice, and peace building.
- The projects are selected through a highly competitive and rigorous process, involving a consultative mechanism with UN agencies and regional experts, as well as an advisory board composed of representatives from governments and civil society.
- It publishes annual reports on its activities and achievements, as well as detailed information on each project on its website.
- It also conducts independent evaluations of its projects to assess their impact and sustainability.
- It ensures that its projects are locally owned and driven by the needs and aspirations of the beneficiaries.
- It also supports projects that address the challenges posed by the Covid-19 pandemic on democracy and human rights.

### Funding

- UNDEF is **funded entirely by voluntary contributions** from UN member states and other donors.
- As of 2021, UNDEF has received over \$200 million in contributions from more than 40 countries.
- **The largest contributors are the United States, India, Sweden, Germany, France, Japan, Australia, Canada, and Norway.**
- It also receives support from private foundations and individuals.
- It is one of the most transparent and accountable funds within the UN system.

### India and UNDEF

- **India is the founding partner and the fourth-highest donor** to the United Nations Democracy Fund (UNDEF).
- Since its inception in 2005, India has contributed over \$45 million to UNDEF, making it the third largest contributor after the United States and Sweden.

- In 2022, India made a voluntary contribution of \$150,000 to UNDEF, reaffirming its commitment to democracy and multilateralism.
- **UNDEF operates under the guidance of an Advisory Board**, which includes representatives from various countries (including India) and civil society organizations.

### UNDEF Projects in India

- **Building capacities of civil society organizations** to monitor and report on human rights violations in conflict-affected areas of Jammu and Kashmir.
- **Promoting civic engagement and social accountability** among urban youth in Delhi and Mumbai.
- **Strengthening democratic governance and accountability** of local self-government institutions in rural areas of Bihar and Uttar Pradesh.
- **Enhancing women's political participation and leadership** in local governance in Rajasthan and Madhya Pradesh.
- **Empowering marginalized communities** to access their rights and entitlements through legal literacy and advocacy in Odisha and Jharkhand.
- **Supporting independent media outlets** to produce and disseminate quality journalism on democracy and development issues in Assam and Manipur.

### Way Forward

- UNDEF's projects have made a positive impact on the lives of millions of people around the world by empowering them to participate in democratic processes, voice their opinions, demand their rights, hold their leaders accountable, and contribute to social change.
- India's support of UNDEF reflects its belief in democracy as a universal value and a shared aspiration of humanity.
- By contributing to UNDEF, India is not only fulfilling its global responsibilities but also enhancing its soft power and goodwill among other nations.

## 2.17 2 MAINS QUESTIONS AND 5 MCQS

**Q. Saudi Arabia is reaching out to old rivals, making negotiations with new rivals and attempting to strike a balance between great powers, all while attempting to modernise its economy. How will this new foreign policy of Saudi Arabia impact India?**

### Answer

- Saudi Arabia's outreach to Iran, Qatar and Turkey, as well as its engagement with China and Russia, may have implications for India's interests and influence in the region. India will have to balance its relations with these countries while maintaining its strategic partnership with Saudi Arabia. India will also have to monitor the developments in Afghanistan, Yemen and Syria, where Saudi Arabia has a stake.
- India and Saudi Arabia have a long history of economic and socio-cultural ties, which have been boosted by the signing of the Strategic Partnership Council Agreement in 2019. The agreement covers various sectors of cooperation, such as energy, trade, investment, security and defence.
- India is one of the largest importers of Saudi oil and gas, and also a potential partner for Saudi Arabia's Vision 2030, which aims to diversify its economy and reduce its dependence on oil. India can offer its expertise and experience in areas such as IT, infrastructure, agriculture and renewable energy.
- On the security front, India and Saudi Arabia share common concerns about terrorism, extremism and regional stability. Both countries have been working together within the G20 and other multilateral forums to promote sustainable development and global peace. They have also established mechanisms for regular dialogue and consultation on strategic issues.

### Conclusion

- India's foreign policy is guided by its national interests and values, and does not follow what the West or East wants. India has shown its ability to pursue an independent and

pragmatic approach towards the Middle East, based on mutual respect and cooperation. India hopes that Saudi Arabia's new foreign policy will contribute to regional peace and stability, and create more opportunities for bilateral collaboration.

**Q2. How relevant is NATO in the present-day world, and what role does it play in addressing the current and future issues that affect its member states and partners?**

### Answer

- North Atlantic Treaty Organization (NATO) is an intergovernmental military alliance that was established in 1949 as a response to the threat of Soviet expansion and aggression in Europe after World War II. Since then, NATO has evolved to face new challenges and threats, such as terrorism, cyber attacks, and a resurgent Russia.

### Collective defence

- The core principle of NATO, which means that an attack against one member is considered an attack against all. This creates a spirit of solidarity and cohesion among the members and deters potential adversaries from aggression. NATO also cooperates with other international organizations and partners to address common security challenges such as terrorism, cyber attacks, weapons of mass destruction, and climate change.

### Humanitarian Missions

- NATO has participated in several humanitarian missions, such as delivering aid to earthquake victims in Pakistan in 2005, enforcing a no-fly zone over Libya in 2011 to protect civilians from Gaddafi's regime, and supporting the African Union's peacekeeping mission in Somalia since 2010.
- International politics: NATO influences global affairs through its political dialogue and cooperation with other actors. NATO is not only a military alliance but also a political forum where members can consult on any issue affecting their security. NATO also

maintains a transatlantic link whereby the security of North America is tied to Europe, ensuring a strong bond between the two continents.

### Conclusion

- NATO is still a highly relevant organization in the present-day world, as it plays a vital role in addressing the current and future issues that affect its member states and partners. NATO provides collective defence against common threats, humanitarian intervention for people in need, and international politics for global stability.

### Q1. Consider the following statement about the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

- It evolved from the Trans-Pacific Partnership (TPP).
- It represents 25% of the Global Gross Domestic Product (GDP).
- Recently, India joined the CPTPP.

Which of the following Statement is/are incorrect?

- (A) 1 and 2 only  
(B) 2 and 3 only  
(C) 1 and 3 only  
(D) 1, 2 and 3

**Answer: B**

*Explanation:*

**Statement 1 is correct:** The CPTPP evolved from the Trans-Pacific Partnership (TPP), which was never ratified due to the withdrawal of the United States in 2017. The remaining 11 signatories agreed to revive the agreement with Japan taking the leading role in place of the US. The CPTPP retained most of the TPP's provisions.

**Statement 2 is incorrect:** At present, The 11 signatories have combined economies representing 13.4% of the Global Gross Domestic Product (GDP). The United Kingdom recently signed the CPTPP. It will be worth 15% of global GDP once the The United Kingdom joins.

**Statement 3 is incorrect:** India has concluded that the extensive economic concessions needed for joining CPTPP have far-reaching consequences. India decided against joining the bloc as it imposes stricter labour and environmental laws on its members.

### Q2. Consider the following statement about the International Big Cat Alliance (IBCA).

- The United Nations Environment Programme (UNEP) has launched the International Big Cat Alliance (IBCA).
- The alliance aims to secure at least 30% of big cat habitats under effective conservation management by 2030.
- The World Wildlife Fund (WWF) is the partner organization of the IBCA.

Which of the following Statement is/are correct?

- (A) 1 and 2 only  
(B) 2 and 3 only  
(C) 1 and 3 only  
(D) 1, 2 and 3

**Answer: B**

*Explanation:*

**Statement 1 is incorrect:** The Prime Minister of India launched the International Big Cat Alliance (IBCA) at the international event celebrating the 50th anniversary of Project Tiger on April 9, 2023, in Mysuru, Karnataka.

The alliance's objective is to reach out to 97 range countries that include the natural habitats of the Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, and Cheetah.

**Statement 2 is correct:** The IBCA aims to achieve the following goals by 2030;

- Increase the number and range of big cats by at least 50% from current levels.
- Secure at least 30% of big cat habitats under effective conservation management.
- Reduce the illegal trade and consumption of big cat parts and products by at least 80%.
- Enhance the coexistence and benefits of local communities living with big cats.
- Raise awareness and support for big cat conservation among governments, businesses and the public.

**Statement 3 is correct:** The IBCA is composed of more than 20 partner organizations, including the World Wildlife Fund (WWF), National Geographic Society, Global Wildlife Conservation (GWC) and others.

It works closely with national governments, local communities, indigenous groups, the private sector and other stakeholders to implement effective conservation strategies across big cat range countries.

**Q3. "The Language Friendship Bridge" Initiative was frequently mentioned in the news. The initiative was taken by;**

- (A) Indian Council of Historical Research
- (B) Archaeological Survey of India
- (C) Indian Council for Cultural Relations
- (D) Union Ministry of Education

**Answer: C**

*Explanation: The Indian Council for Cultural Relations (ICCR) has planned a special project named 'The Language Friendship Bridge,' which will train five to ten people in each of these countries' official languages.*

*The ICCR has chosen ten languages as of now: Kazakh, Uzbek, Bhutanese, Ghoti (spoken in Tibet), Burmese, Khmer (spoken in Cambodia), Thai, Sinhalese, and Bahasa (spoken in both Indonesia and Malaysia). Indian Council for Cultural Relations (ICCR) is an autonomous organisation of the Union Ministry of External Affairs. It was established by Maulana Abul Kalam Azad, the first Education Minister of independent India.*

**Q4. Consider the following statements.**

1. India is a signatory to the 1951 UN Refugee Convention.
2. India has launched 'Operation Krishna' to bring back its citizens from Sudan.
3. The Automatic Exchange of Information (AEOI) framework was developed by the World Bank.

Which of the following Statement is/are incorrect?

- (A) 1 and 2 only
- (B) 2 and 3 only
- (C) 1 and 3 only
- (D) 1, 2 and 3

**Answer: D**

*Explanation:*

**Statement 1 is incorrect:** India does not have a specific law or policy on refugees and is not a signatory to the 1951 UN Refugee Convention or its 1967 Protocol.

*India deals with refugees on a case-by-case basis, depending on their origin, religion and political affiliation. India has granted legal status and rights to some refugees, such as Tibetans and Sri Lankans, while denying them to others, such as Afghans and Rohingyas.*

**Statement 2 is incorrect:** India has launched a massive evacuation operation to bring back its citizens from Sudan, where a violent conflict has erupted. The operation, named 'Operation Kaveri', involves transporting Indians from Khartoum and other areas to Port Sudan, and then to Jeddah in Saudi Arabia, using Indian Air Force and Indian

*Navy aircraft and ships. From Jeddah, they are flown back to India in commercial flights or IAF planes.*

**Statement 3 is incorrect:** Automatic Exchange of Information (AEOI) framework was developed by the OECD and endorsed by the G20 to exchange financial account information between tax authorities. India is also a member of the framework. It requires the annual exchange of information on financial accounts held by non-resident individuals and entities in a pre-defined format.

*The information exchanged includes details about the financial account, such as the account number, balance, and income, and details about the account holder, such as their name, address, date of birth, and taxpayer identification number.*

**Q5. Which of the following country share border with Sudan?**

1. Chad
2. Eritrea
3. Ethiopia
4. Libya

Choose the correct code

- (A) 1 and 2 only
- (B) 1, 2 and 4 only
- (C) 2, 3 and 4 only
- (D) 1, 2, 3 and 4

**Answer: D**

*Explanation:*

*Sudan is a large country in Northeast Africa that has a diverse geography and population. It is bordered by seven other countries: Egypt, South Sudan, Central African Republic, Chad, Eritrea, Ethiopia, and Libya.*




## 3. ECONOMY

### 3.1 POLAVARAM PROJECT

#### Context

- The Andhra Pradesh government is gearing up for a rehabilitation exercise in the **submergence areas** of the Polavaram irrigation project.



#### About

- It is an under-construction multi-purpose irrigation project on the Godavari River in Andhra Pradesh.

#### Recognition

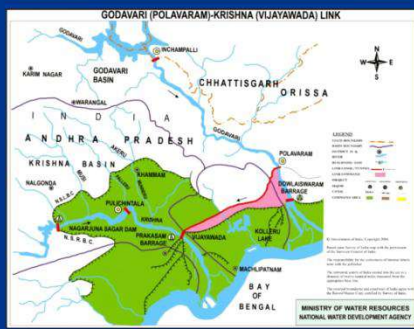
- It has been accorded National project status by the Central Government of India. In National Projects, financial assistance is provided in the form of a Central grant which will be 90% of the estimated cost of such a project.

#### Reservoir

- The reservoir covers the famous Papikonda National Park, Polavaram hydroelectric project (HEP).

#### Location

- It is located 40 km upstream of Sir Arthur Cotton Barrage in Rajamahendravaram City.



#### Advantages

- Will transfer surplus waters from the Godavari basin to the Krishna River basin that is a water deficit.
- Will address flooding and droughts in the Godavari and Krishna River basins.
- Store water at Polavaram dam.
- Irrigate agricultural land. 291,000 ha of new land will be brought under irrigation.
- Produce hydroelectricity.
- Supply water to Vishakhapatnam.
- Supply water to Vizag Steel plant.

#### Concerns

- Environmental Impact Assessment (EIA) of the project says 276 villages and 44,547 families will be displaced from their places.
- The project submerges several archaeological sites, wildlife sanctuaries, and coal deposits.
- Inundation in some areas of Odisha and Chhattisgarh.
- The project will submerge villages along the Sabari River in the Konta block of Chhattisgarh's Dantewada district.
- In Odisha, villages along the Sabari and Sileru rivers (tributaries of the Godavari) in Motu block will be submerged.

#### Way Forward

- All the stakeholders need to come together and the concerns need to be addressed.
- Issues raised in the matter should be examined and worked out to reap the benefits of the project.



### 3.2 MONETARY POLICY COMMITTEE

#### Context

- RBI announced the monetary policy statement of the central bank.

<b>About</b>	<ul style="list-style-type: none"> <li>• MPC is a body constituted by the Central government and led by the RBI.</li> <li>• The first meeting of MPC was conducted on 3rd October 2016 in Mumbai.</li> </ul>
<b>Genesis</b>	<ul style="list-style-type: none"> <li>• <b>Urjit Patel Committee</b> was the first committee who proposed the Monetary Policy Committee (MPC).</li> </ul>
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Prime objective of RBI MPC is to determine the policy interest rate required to achieve the inflation target.</li> </ul>
<b>Mandate</b>	<ul style="list-style-type: none"> <li>• It is responsible for framing the monetary policy of the country, using the tools like repo rate, reverse repo rate, bank rates etc.</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>• RBI Act, 1934 empowers the RBI to take Monetary Policy Decisions.</li> </ul>
<b>Composition</b>	<ul style="list-style-type: none"> <li>• The committee comprises <b>six members - three officials of the Reserve Bank of India and three external members nominated by the Government of India.</b></li> <li>• The Governor of Reserve Bank of India is the chairperson ex officio of the committee.</li> </ul>
<b>Term</b>	<ul style="list-style-type: none"> <li>• Each member has tenure of four years.</li> </ul>
<b>Confidentiality</b>	<ul style="list-style-type: none"> <li>• They need to observe a "silent period" seven days before and after the rate decision for "utmost confidentiality".</li> </ul>
<b>Decisions</b>	<ul style="list-style-type: none"> <li>• Decisions are taken by majority with the Governor having the casting vote in case of a tie.</li> <li>• MPC decisions are taken by voting, where a simple majority (4 out of 6) is necessary for a decision to be passed.</li> </ul>
<b>Inflation Target</b>	<ul style="list-style-type: none"> <li>• Targeted consumer price index (CPI) inflation rate is= 4%</li> <li>• Upper tolerance limit of inflation is= Target inflation rate + 2% = (4% + 2%) =6%</li> <li>• Lower tolerance limit of inflation is= Target inflation rate - 2% = (4% - 2%) =2%</li> <li>• Targeted consumer price index (CPI) inflation rate period from = April 1, 2021</li> <li>• Targeted consumer price index (CPI) inflation rate period up to = March 31, 2026</li> </ul>

READ ABOUT MONETARY POLICY: QR CODE: <https://www.iasgyan.in/daily-current-affairs/monetary-policy>



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### 3.3 NATIONAL CURRICULUM FRAMEWORK

#### Context

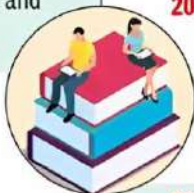
- The Ministry of Education released a “pre-draft” version of the National Curriculum Framework for School Education.
- The curricular framework for age groups 3 to 18 is included in the pre-draft.

#### What is National Curriculum Framework?

It provides the framework for creation of school syllabi and writing of textbooks, and gives guidelines on teaching practices

#### Past Guidelines

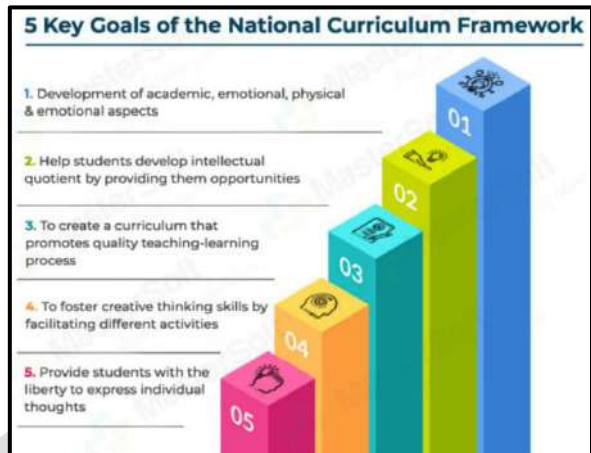
**1975:** General science as a compulsory subject, activity-based integrated science recommended up to Class X  
**1988:** Science curriculum



should be learner-centred, develop well-defined abilities in cognitive, affective and psychomotor domains

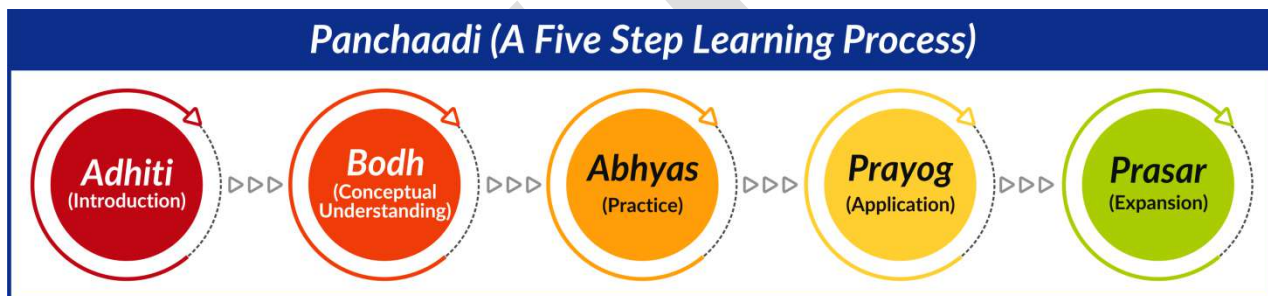
**2000:** Teaching of science and tech in upper primary & secondary, part of environment studies in primary recommended

**2005:** Focus on 'learning without burden', reduction in syllabus, including age-appropriate concepts



#### Panchaadi and Panchkosha

- NCF in its latest guidelines has recommended a five-step learning process, or Panchaadi, for young children at the preschool or foundational level.



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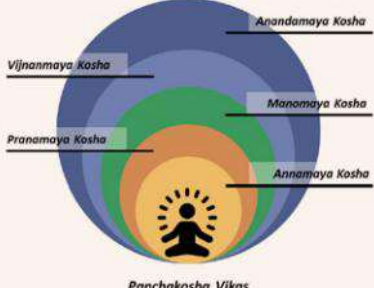
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## Components of the Framework

<p><b>Values-based Education</b></p>	<ul style="list-style-type: none"> <li>It is intended on familiarising students with authentic sources of knowledge, which have long been a philosophical focus of ancient Indians. These sources concentrate on six pramanas:</li> </ul> 
<p><b>Moral Development</b></p>	<ul style="list-style-type: none"> <li>It focuses on a child's moral growth through panchakoshavikas or five-fold development. "Panchakosha," is an ancient Indian emphasis on the relationship between the body and the mind.</li> <li>It also suggests instilling moral principles in children through a balanced diet, traditional activities, yoga asanas, and a wide range of stories, songs, lullabies, poetry, and prayers to foster a love of cultural context.</li> </ul> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p style="text-align: center;"><b>Panchakosha Vikas (Five-fold Development) - A keystone in Indian tradition</b></p> <p><i>The child is a whole being with panchakoshas or five sheaths. The layers are annamaya kosha (physical layer), pranamaya kosha (life force energy layer), manomaya kosha (mind layer), vijnanamaya kosha (intellectual layer) and anandamaya kosha (inner self). Each layer exhibits certain distinct characteristics. The holistic development of a child takes into account the nurturing and nourishment of these five layers.</i></p>  <p style="text-align: center;"><b>Panchakosha Vikas</b></p> </div>
<p><b>Subjects to Study</b></p>	<ul style="list-style-type: none"> <li>Students will need to study two key courses from the <u>humanities, math and computers, vocational education, physical education, arts education, social science, science,</u> and transdisciplinary fields for Grade 10 certification.</li> <li>Students in <b>Grades 11 and 12</b> will be offered choice-based courses in the same fields.</li> <li><b>Music, dance, theatre, sculpture, painting, set design, and scriptwriting</b> will be part of the arts education, while inter-disciplinary areas will incorporate knowledge of India, traditions, and practices of Indian knowledge systems.</li> </ul>
<p><b>Exam Pattern</b></p>	<ul style="list-style-type: none"> <li>Modular Board Examinations will be provided as opposed to a single exam at the end of the year, and the final result will be based on the cumulative result of each exam" <b>for Class 11 and 12.</b></li> </ul>

### 3.4 NEW ECONOMICS FOR A NEW WORLD

#### Context

- A movement to change the paradigm of economics' science has begun in the West. India's economists must step forward and not just follow these developments – Experts.

#### Challenges facing the Indian Economy at present

1. **Management of inflation, interest rates, and exchange rates**, for which the Reserve Bank of India is expected to find a solution.
2. **Negotiating bilateral and multilateral trade agreements** that protect the interests of India's farmers and workers, for which coordination is required amongst the Ministries of Commerce, Industry, and Agriculture.
3. **Secure employment with adequate incomes**, which involves all Ministries and all State governments. It has become a principal cause of social tensions and political conflicts in the country.

#### Concern

- Economists **do not have a systemic solution for this "poly-crisis"**.
- Consensus among them has broken down even about solutions to its separate parts.
- **They are divided on -**
  - Whether central bankers should operate independently of governments;
  - Whether inflation should take precedence over employment;
  - Whether imports should be made less costly for consumers or protection of workers' incomes should take precedence to increase their purchasing power; and
  - Who is hurt by the depreciation of the rupee.
- The current paradigm of economics cannot provide solutions.
- They should break out of it and examine the emerging science of complex self-adaptive systems.
- Policymakers need to comprehend complex socio-economic systems in which many forces

of different sorts interact with each other – some of which are not easy to quantify.

#### Tinbergen's theory

- It states that the number of policy instruments must equal the number of policy goals.
- This justifies the necessity of independent monetary institutions for managing inflation, separate trade and industry specialists, and separate policies for environment management and agriculture.
- This is a mechanical and linear view of how a complex system works.
- In complex organic systems – which all natural and socio-economic systems are – root causes contribute to many outcomes.
- Moreover, outcomes circle back to feed the roots too. Therefore, the **behaviour of the system cannot be explained by linear causes and effects**. The causes interact with each other, and effects also become causes.

#### Analogy

- Trade and monetary policies that fit the United States, China, Vietnam, or India will not fit the needs of others.
- Their needs have emerged from their own histories. Economists arrive at solutions by comparing data trends of different countries.
- They run their equations on computers. In their models, people are numbers.
- Economists do not listen to real people, whereas politicians try to at least.
- Indian economists complain that bad politics is coming in the way of good economics.
- Whereas bad economics could be coming in the way of harmonious progress of the country.
- Global solutions and economic theories invented in the West have caused problems, for which new solutions are essential.
- The inadequacy of the current paradigm was revealed by several crises in this millennium: **the 2008 global financial crisis; inequitable management of the global COVID-19 pandemic; and the looming global climate**

crisis (in which, clearly, one solution cannot fit all).

### Finding Solutions

- Einstein said that working harder to solve systemic problems with the same thinking that caused them is madness.
- 'Vasudhaiva Kutumbakam' (One Earth, One Family, One Future) is the theme of the G-20, which India is leading this year.

*A new economics is required.*

- A movement to change the paradigm of economics' science to bring perspectives from the sciences of complex self-adaptive systems has begun even in the West. India's economists must step forward and not just follow these developments. They must lead them too.

## 3.5 GLOBAL SOVEREIGN DEBT ROUNDTABLE

### Context

- The Global Sovereign Debt Roundtable (GSDR) discussed debt sustainability and debt restructuring challenges and ways to address them.

### What is the GSDR?

- The objective of the Global Sovereign Debt Roundtable is to build a greater common understanding among key stakeholders involved in debt restructurings.
- It further **works on the current shortcomings in debt restructuring processes and ways to address them.**

### Who participates in the GSDR?

- The roundtable is co-chaired by the IMF, World Bank and India (G20 Presidency).
- It comprises official bilateral creditors (both traditional creditors members of the Paris Club and new creditors), private creditors and borrowing countries.

### When does the GSDR meet?

- The GSDR started its work in February 2023.
- The next meeting was recently held in April 2023, in the context of the IMF-WB Spring meetings.

### Outcomes at the Spring meetings

- GSDR to focus on the actions that can be taken now to accelerate debt restructuring

processes and make them more efficient, including under the **G20 Common Framework.**

- There is an agreement on the **importance of urgently improving information sharing** including on macroeconomic projections and debt sustainability assessments at an early stage of the process.
- The IMF and World Bank will rapidly issue staff guidance on information sharing at each stage of the restructuring process.
- The meeting also discussed the **role of Multilateral Development Banks (MDBs)** in these processes through the provision of net positive flows of concessional finance.
- **The International Development Association's (IDA)** provision of positive net flows and the ex-ante implicit debt relief through increased concessionality and grants to countries facing higher risks of debt distress was welcomed.

### India's suggestions

- As a priority for India's G20 Presidency, there is a need to **augment present global efforts, including those of the G20**, to address growing debt distress across the globe.
- India stressed on **debt transparency and information-sharing** as well as clarity on the comparability of treatment, predictability and timeliness of the debt restructuring process.



## PARIS CLUB

- The Paris Club is a group of mostly Western creditor countries that grew from a 1956 meeting in which Argentina agreed to meet its public creditors in Paris.
- Their objective is to find sustainable debt-relief solutions for countries that are unable to repay their bilateral loans.
- It describes itself as a forum where official creditors meet to solve payment difficulties faced by debtor countries.
- All 22 are members of the group called Organisation for Economic Co-operation and Development (OECD).
- Members: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Japan, Netherlands, Norway, Russia, South Korea, Spain, Sweden, Switzerland, the United Kingdom and the United States.

## 3.6 COST INFLATION INDEX

### Context

- The Income Tax Department has notified the Cost Inflation Index for the current fiscal beginning April 2023.



#### About Cost Inflation Index

- Cost Inflation Index or CII is a tool used in the calculation of an estimated yearly increase in an asset's price as a result of inflation.

#### Notification and Act

- This index, notified each year by the Government is defined under the Income Tax Act, 1961.

#### Purpose

- CII is the measure of inflation used to adjust the cost of acquisition of an asset to calculate the capital gains tax liability.

#### Publishing and Basis

- It is published by the Central Board of Direct Taxes (CBDT) annually and is based on the Consumer Price Index (CPI).

#### Calculation and Adjustment

- The CII calculates the indexed cost of acquisition of an asset, which is the actual cost of acquisition adjusted for inflation. This adjustment is made to account for the impact of inflation on the value of the asset over the years.
- By adjusting the cost of acquisition for inflation, the indexed cost of acquisition is higher than the actual cost of acquisition, lowering the capital gains tax liability.

#### Significance

- The concept of CII is especially useful for taxpayers who have held an asset for a long period, as the indexed acquisition cost helps reduce their tax liability. Individuals planning to sell an asset can use the CII to calculate the capital gains tax liability on the asset's sale.
- Overall, the Cost Inflation Index plays a significant role in India's taxation system, helping taxpayers calculate their tax liability fairly and accurately.

## 3.7 APPLICATION SUPPORTED BY BLOCKED AMOUNT

### Context

- Securities and Exchange Board of India (SEBI), approved a framework for Application Supported by Blocked Amount (ASBA)-like facility for trading in the secondary market.

### What is ASBA?

- ASBA, was **first introduced by SEBI in 2008**.
- It is an application by an investor **that contains authorization to a Self-Certified Syndicate Bank (SCSB) to block in the bank account the application money for subscribing to an issue.**

PRIMARY VS. SECONDARY MARKET		
Basis	Primary Market	Secondary Market
Meaning	Offers security for the first time.	Offers trading of already issued securities
Another name	New issue market (NIM).	Aftermarket or share market.
Type of product	Mainly include IPO and FPO	Shares, warrants, derivatives and more.
Purchase type	Direct Purchases from Co.	Trading between Investors.
Frequency of selling	Once	As many as possible
Parties involved	Company and the investors.	investors buy and sell among themselves.
Beneficiary	Company	Investor
How to identify investment?	Investors primarily rely on prospectus and word-of-mouth publicity.	Several tools such as price to earnings (P/E), price to book (P/B), price to sales (P/S) and more.
Intermediary	Underwriters	Brokers.
Purpose	To raise capital for expansion and diversification, etc.	Trading and thereby availing Liquidity to Investors.
Price	The company sells the shares to the investors at a fixed price.	Demand Supply discovers the price.
Presence	No organization set up.	Geographical setup and organizational presence.
Rules and Regulations	The company issuing securities goes through a lot of regulation and due diligence.	Investors and brokers follows the rules set by the exchange and the governing agencies.

[Note: An SCSB is a recognized bank capable of providing ASBA services to its customers.]

- The application money of an investor applying through ASBA shall be debited from the bank account only if her application is selected for allotment after the basis of allotment has been finalized.
- In public issues and rights issues, all investors have to mandatorily apply through ASBA.

### What has SEBI done?

- It gave its nod for an **ASBA-like facility for secondary market trading.**
- The facility is based on the blocking of funds for trading in the secondary market through UPI (Unified Payments Interface).

#### Note:

*At present, ASBA is available for the primary market, wherein the initial public offering (IPO) funds only are blocked on application, and are debited only on the allotment.*

### How does ASBA work in the primary market?

- In the ASBA system, there is an explicit authorization to block the application money in the bank account.

- When an investor makes an application for an IPO, a similar amount of funds are blocked in the ASBA bank account. Such funds cannot be used for any other purposes.
- However, once the allotment is finalized, based on the number of shares allotted, the ASBA bank account will be debited, and the balance funds will be released for regular use.

### Significance of the recent extension

- The extension of ASBA to **secondary markets** means brokers **will no longer collect margins from clients**; only a block will be placed on the bank account. This will not matter much for banks-cum-brokers such as ICICI, HDFC, and Axis, since it anyways works like a quasi-ASBA. However, it could matter for non-bank brokers.
- ASBA in secondary market trading **will ensure that clients will continue to earn interest on the blocked funds in their savings account till the debit takes place.**
- There will be a direct settlement with Clearing Corporation (CC), without passing through the pool accounts of the intermediaries. Hence, it will provide **client-level settlement visibility to CC**, and help **avoid the risk of co-mingling of clients' funds and securities.**
- It will eliminate the custody risk of client collateral, which is currently retained by the members, and is not transferred to the CC. There will be hassle-free and immediate unblocking of client's funds and/ or return of securities **in case of member default.**
- The facility will bring **efficiency in the secondary market ecosystem by allowing usage of the same blocked amount towards margin and settlement obligations.** It will result in **lower working capital requirements for members.**
- Under the proposed framework, stock brokers will be allowed to either directly settle the brokerage with the UPI clients or opt for CC's facility to deduct standard rate of brokerage from the UPI block of the clients.

### 3.8 WHEAT CULTIVATION

#### Context

- 2021-22 and 2022-23 have both seen unusual rabi (winter-spring) cropping seasons in terms of weather and yield loss, especially in wheat.



#### About

Wheat is a Rabi Crop grown between September and December and harvested between February and May.

#### Total cropped area

The total area under the crop is about 29.8 million hectares in the country.

#### Wide climate adaptability

The wheat crop has wide adaptability. It can be grown not only in the tropical and sub-tropical zones but also in the temperate zone and the cold tracts of the far north, beyond even the 60 degrees north latitude.

#### High Tolerance

Wheat can tolerate severe cold and snow and resume growth with the setting in of warm weather in spring.

#### Temperature range

The optimum temperature range for ideal germination of wheat seed is 20-25° C though the seeds can germinate in the temperature range 5° to 35° c.

#### Soil requirement

Soils with a clay loam or loam texture, good structure and moderate water holding capacity are ideal for wheat cultivation.

#### Production

In 2020, wheat production for India was 107,860 thousand tonnes. Wheat production of India increased from 23,832 thousand tonnes in 1971 to 107,860 thousand tonnes in 2020 growing at an average annual rate of 3.42%.

Wheat production is estimated to reach 112.18 million tonnes during 2022-23, which is 4.12 per cent higher than 107.74 million tonnes recorded during 2021-22, according to the Second Advanced Estimates of production of major crops released by the Ministry of Agriculture and Farmers Welfare.



#### India's production [place in the world]

India is the second-largest producer of wheat with a share of around 14.14 per cent of the world's total production in 2020.

#### World's largest producers of Wheat

China, India, and Russia are the three largest individual wheat producers in the world, accounting for about 41% of the world's total wheat production.

Prairies of North America are called 'Wheat basket of the world'.

Areas of Cultivation



## 3.9 INDIA'S TRADE STATISTICS

### Context

- India's goods exports declined for the second successive month in March 2023.

### Recent Trends: Further details

#### Exports

- Exports fell a sharp 13.9% to \$38.38 billion.

#### Imports

- Imports dipped 7.9% to \$58.11 billion.

#### Total goods exports

- Total goods exports in 2022-23 rose 6.03% to \$447.46 billion, while the import bill surged by a steeper 16.5% to \$714 billion.

#### Goods Trade Deficit

- The goods trade deficit rose almost 40% to over \$266 billion in 2022-23, compared to \$190 billion in 2021-22.

#### India's Targets

- Despite the global headwinds like Russia-Ukraine War, U.S Fed rate hikes etc, India has surpassed its 2022-23 target of \$750 billion dollars to hit **\$770.18 billion**, which is \$94 billion higher than last year's record exports.

### Export Items: Performance

#### Petroleum and Electronic Goods

- India's uptick in outbound shipments was largely led by **petroleum, up 27% to \$94.5 billion**, followed by **electronics goods that rose 7.9% to \$23.6 billion**.

#### India's top five export items

- The other three of India's top five export items registered insignificant growth - **Rice (up 1.5%), chemicals (1%), and drugs and pharmaceuticals (0.8%)**. Petroleum exports now account for **21.1% of total exports, up from 16% in 2021-22**.

#### Engineering goods

- Engineering goods**, India's mainstay in goods exports in recent years, **shrank 5.1% to \$107 billion**, bringing down their share in total exports from 26.6% to 23.9%.

#### Non-oil exports

- Non-oil exports, contracted 0.5%**, and if electronics exports were excluded too, goods

shipments were 2.8% lower than 2021-22, which economists called a red flag.

#### Engineering and Gems and Jewellery

- Important segments like **engineering and gems and jewellery** witnessed negative growth.

### Import Trends

#### Russia

- India's imports from Russia grew almost 370% to over \$46 billion in 2022-23.**
- Russia's share in import leaped from 1.6% in 2021-22 to 6.5% last year, **making it the fourth largest import source nation for India, behind China, UAE and the USA.**

#### China

- China's share of goods imports dipped to 13.8% in 2022-23 from 15.4% in 2021-22.
- However, **imports from the country still grew 4.2% to reach \$98.5 billion last year**, while exports to China fell 28% to just \$15.3 billion.
- Indian shipments to China now account for just 3.4% of total exports, from over 5% in 2021-22.

#### Petroleum

- Petroleum imports jumped about 30% to nearly \$210 billion in 2022-23.

#### Coal

- Coal imports grew at a faster 57% to touch almost \$50 billion.

#### Gold

- Gold imports, fell around 24% to \$35 billion as global prices for the metal surged and the Rupee turned weaker.

#### Country comparison

- The **USA remained India's top export destination**, followed by UAE, while Netherlands emerged as the third largest goods buyer, displacing China to the fourth position in 2022-23.
- Netherlands' share of Indian exports jumped from under 3% in 2021-22 to 4.7%**, recording a staggering 66.6% uptick year-on-year.
- Bangladesh and Hong Kong remained in India's top 10 export markets**, although the

value of shipments to their shores contracted 27.8% and 9.9%, respectively.

### India's Recent Trade Policy

- The government unveiled its **new Foreign Trade Policy (FTP)** which came into force on **1<sup>st</sup> April, 2023**.
- The previous policy, **launched in 2015**, had to be extended several times due to the pandemic and geo-political developments.

### What is the significance of FTPs?

- Under the Foreign Trade Development and Regulation Act, 1992, the government is required to **formulate, implement and monitor trade policies to boost exports, facilitate imports and maintain a favourable balance of payments**.
- The first five-year **export-import (EXIM) policy of 1992** and the second in 1997-2002 aimed to remove many of the post-independence trade protectionist measures and promote India's integration with the global economy.
- In 2004, the **EXIM Policy was renamed FTP to adopt a comprehensive approach to India's foreign trade**. Later, FTPs were issued for 2009-14 and 2015-20.

### Did the previous FTP meet its objectives?

- FTP 2015-20 aimed to boost India's exports from \$465 billion in 2013-14 to \$900 billion by 2019-20.
- It introduced a **new merchandise export from India scheme** to provide rewards to exporters to offset infrastructural inefficiencies and associated costs and a services export from India scheme to encourage the exports of notified services.
- At the conclusion of the policy's initial term in 2019-20, exports of goods and services reached \$526.55 billion.

- Export momentum was derailed in 2020-21 by the pandemic and geopolitical tensions.

### What is the duration of FTP 2023?

- The government has **broken away from the conventional practice of setting a five-year cycle**.
- The new policy is intended to be **responsive to changing circumstances and will be modified as and when required**.
- Additionally, the government will consistently gather input from relevant stakeholders to enhance and revise the policy.

### What are its key thrust areas?

- **It has four pillars. These are:**
  1. Replacing the incentive-based system of promoting exports with remission and entitlement-based regimes;
  2. Facilitating enhanced collaboration among exporters, states, districts, and Indian missions;
  3. Reducing transaction costs and introducing e-initiatives for ease in business operations; and
  4. Developing additional export hubs.
- It also intends to simplify the export process for items falling under the Special Chemicals, Organisms, Materials, Equipment, and Technologies (SCOMET).

### What are the goals and targets?

- The government aims to **increase India's overall exports to \$2 trillion by 2030**, with equal contributions from the merchandise and services sectors.
- The government intends to **encourage the use of the Indian currency in cross-border trade**, aided by a new payment settlement framework introduced by RBI in 2022. This could be advantageous in the case of countries with which India enjoys a trade surplus.

### 3. 10 INDIA'S EXPORT TRENDS

#### Context

- Jamnagar in Gujarat is the top exporting district in India according to Commerce Ministry Data.

#### Details

##### Rank 1 - India's exports in value terms

- Jamnagar formed about **24% of India's exports in value terms in FY23 (till January).**

##### Rank 2 and 3 - India's exports in value terms

- Surat in Gujarat and Mumbai Suburban in Maharashtra feature second and third by a distance, forming only about **4.5% of the country's exports in the period.**

##### Districts in the top 10

- The other districts in the top 10 are Dakshina Kannada (Karnataka), Devbhumi Dwarka, Bharuch and Kachchh (Gujarat), Mumbai (Maharashtra), Kancheepuram (Tamil Nadu) and Gautam Buddha Nagar (Uttar Pradesh).

##### Highest share in Tamil Nadu

- Kancheepuram formed **33% of Tamil Nadu's exports, the highest share among all the districts in the State.**

##### Top exporting districts as a part of State's Exports

- Some top exporting districts formed only around 20% of a State's exports. For example,

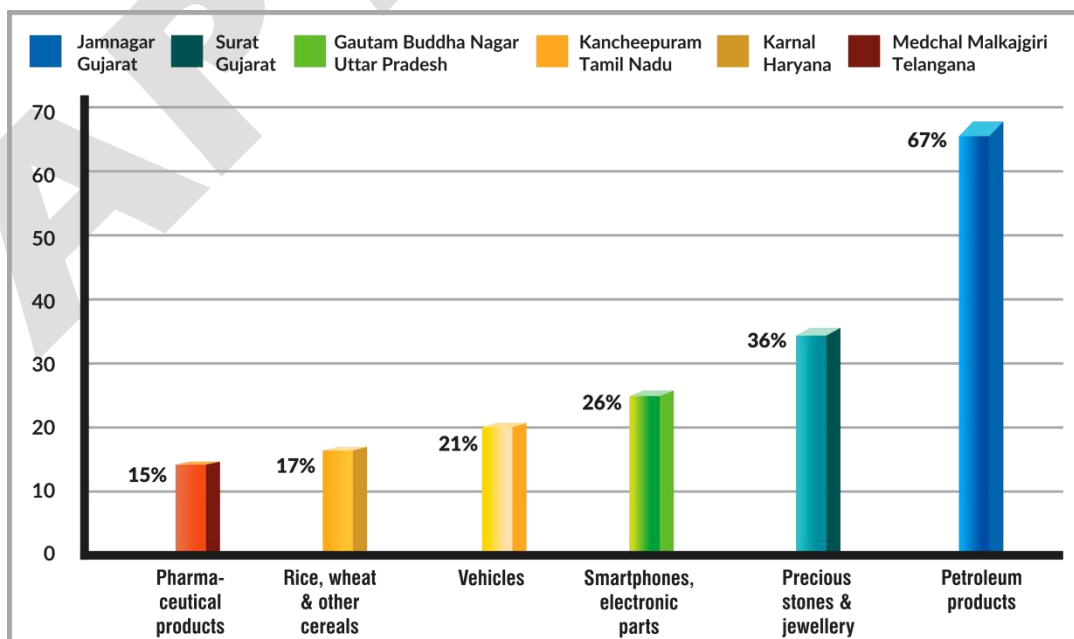
Indore and Jaipur, the top exporting districts in Madhya Pradesh and Rajasthan, respectively, formed only 21% of their State's total exports each.

##### Top exporting districts in the Northeastern States

- Most top exporting districts in the North-Eastern States formed as much as 90% of a State's exports.
- Gomati (Tripura), Ri Bhoi (Meghalaya), and East Sikkim (Sikkim) formed over 90% of their state's exports.

##### Item-wise performance

- Jamnagar's dominance can be attributed to the fact that it **formed a lion's share of India's surging petroleum exports.**
- Kancheepuram's **most exported commodity was smartphones.**
- Kamrup, Assam's top exporting district, **exported tea the most.**
- Gautam Buddha Nagar in Uttar Pradesh **exported smartphones the most.**
- Raipur in Chhattisgarh **exported parboiled rice the most.**
- Mumbai Suburban in Maharashtra **exported diamond the most.**



### 3.11 WTO PANEL RULES AGAINST INDIA

#### Introduction

- The World Trade Organization (WTO) has ruled in favor of the European Union (EU) in a case challenging India's tariff on key information and communication technology (ICT) products.

#### Background

- India has since 2014 gradually **introduced customs duties of up to 20% on products** such as mobile phones, mobile phone components and accessories, line telephone handsets, base stations, static converters or electric wires and cables.
- The **EU considered that these duties were in direct breach of WTO rules** since India is obliged under its WTO commitments to apply a **zero-duty rate to such products**.
- The EU initiated this WTO dispute settlement case in **2019**. The panel issued its final report to all WTO Members on 17 April 2023.

#### Ruling

- In its panel ruling, the **WTO upheld all EU claims against India and found that India's tariffs of up to 20% on certain ICT products, such as mobile phones, were not in line with its WTO commitments, and thus are illegal**.

#### What the WTO said?

- The WTO panels concluded that India's duties have nullified or impaired benefits accruing to the complainant countries under General Agreement on Tariffs and Trade (GATT).
- The articles provide **for exemption from ordinary customs duties, other duties and charges on select imports, which refer to electronics and information technology items in this case**.
- India should apply a zero-duty rate on information and communication technology products like mobile phones, according to its WTO commitments. Instead, it has tariffs of up to 20 percent. That is illegal, a WTO panel has ruled. Respect for the **rules-based trading system** is vital for a good trade relationship.

#### GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

The General Agreement on Tariffs and Trade (GATT) is a legal agreement between many countries, whose overall purpose was to promote international trade by reducing or eliminating trade barriers such as tariffs or quotas. It was signed by 23 nations in Geneva on 30 October 1947, and was applied on a provisional basis 1 January 1948. It remained in effect until 1 January 1995, when the World Trade Organization (WTO) was established after agreement by 123 nations in Marrakesh on 15 April 1994, as part of the Uruguay Round Agreements. The WTO is the successor to the GATT, and the original GATT text (GATT 1947) is still in effect under the WTO framework, subject to the modifications of GATT 1994. The GATT, and its successor the WTO, have succeeded in reducing tariffs.

#### India's stance

- In its defence, India had maintained that its binding tariff commitments are **in accordance to the Information Technology Agreement** and that these commitments did not change upon their incorporation into India's WTO Schedule.
- India also raised several arguments on the nature of the conditions attached to certain tariff treatment as well as the tariff classification of certain products.

#### Repercussions

- The EU has also approached India to resolve the matter through a multi-party interim appeal arbitration arrangement (MPIA).
- However, India is against MPIA as a mechanism and is in favor of the restoration of the WTO appellate body.

**Note:** MPIA is an alternative system for resolving WTO disputes that are appealed by a member nation in the absence of a functioning WTO appellate body.

#### Implications

- The EU is India's third largest trading partner, accounting for 10.8% of total Indian trade in 2021, according to the European Commission.

- The panel findings would have an **impact** in the ongoing **Free Trade Agreement** negotiations with other countries, particularly the EU.

**READ ABOUT WTO'S CRITICISM AND NEED FOR REFORM: QR CODE:** <https://www.iasgyan.in/daily-current-affairs/wtos-ruling-against-india>

### 3.12 MARKETS IN CRYPTO ASSETS (MiCA)

#### Context

- The European Parliament, has approved the world's first set of comprehensive rules to bring largely unregulated cryptocurrency markets under the ambit of regulation by government authorities.
- The regulation called the **Markets in Crypto Assets (MiCA)**, will come into force after formal approval by member states.

**Note:** European Parliament is the legislative body of the 27-country block European Union.

#### Markets in Crypto-Assets (MiCA)

- Markets in Crypto-Assets (MiCA) is a **regulation in EU law**.
- It is intended to help streamline **distributed ledger technology (DLT)** and virtual asset regulation in the **European Union (EU)** whilst **protecting users and investors**.
- MiCA provides legal certainty around crypto assets – **cryptocurrencies, security tokens and stablecoins**.

### 3.13 LOGISTICS PERFORMANCE INDEX (LPI)

#### Context

- India climbed up six places in the Logistic Performance Index 2023.

#### Logistics

#### Performance Index (LPI)

##### About

- The Logistics Performance Index (LPI) is a logistics capacity index created by the World Bank.
- It is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.

##### Mandate

- It analyses differences between countries in terms of customs procedures, logistics costs and the quality of the infrastructure for overland and maritime transport.

##### Reporting

- The Logistics Performance Index is reported by the World Bank every two years.

##### Key Dimensions

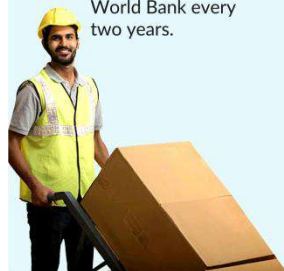
- It is the combination of the weighted average of the country scores on six key dimensions:
  1. Customs performance,
  2. Infrastructure quality,
  3. Ease of arranging shipments,
  4. Logistics services quality,
  5. Consignments tracking and
  6. Tracing and timeliness of shipments as well as practical data measuring logistics efficiency.
- This measure indicates the relative ease and efficiency with which products can be moved into and inside a country.

##### Scores on Key Dimensions

- The logistics performance (LPI) is the weighted average of the country scores on six key dimensions:
  1. The efficiency of the clearance process (i.e; speed, simplicity and predictability of formalities) by border control agencies, including customs.
  2. Quality of trade and transport-related infrastructure (e.g., ports, railroads, roads, information technology);
  3. Ease of arranging competitively priced shipments;
  4. Competence and quality of logistics services (e.g., transport operators, customs brokers);
  5. Ability to track and trace consignments;
  6. Timeliness of shipments in reaching the destination within the scheduled or expected delivery time.

##### India's Performance in Logistics Performance Index (LPI) 2023

- India has climbed six places on the World Bank's Logistic Performance Index (LPI) 2023, now ranking 38th in the 139 countries index.
- India's performance has drastically improved from 2014, when it was ranked 54th on the LPI.
- The report quotes modernization and digitalization as a reason for emerging economies, like India, to leapfrog advanced countries.



### 3.14 HANDLOOM SECTOR

#### Context

- The Ministry of Textiles has developed an E-Commerce portal named as India handmade portal for the handicrafts and handloom sector.

#### The Portal and its Significance

- With the help of this virtual Indian store, the artisans will get remunerated fairly with no middlemen to manipulate prices and city dwelling urban **Indians will get access to 100% authentic & best handicrafts products emerging straight from the heart of India.**
- India handmade portal offers a wide range of products, including clothing, home decor, jewellery, accessories, and more. All their products are handmade by skilled artisans, and they pride themselves on offering unique and authentic pieces **that showcase India's diverse cultural heritage.**
- The portal will also provide **an opportunity to a total 62 Lakh weavers and artisans to become future e-entrepreneurs.**

#### Overview of Handloom Sector

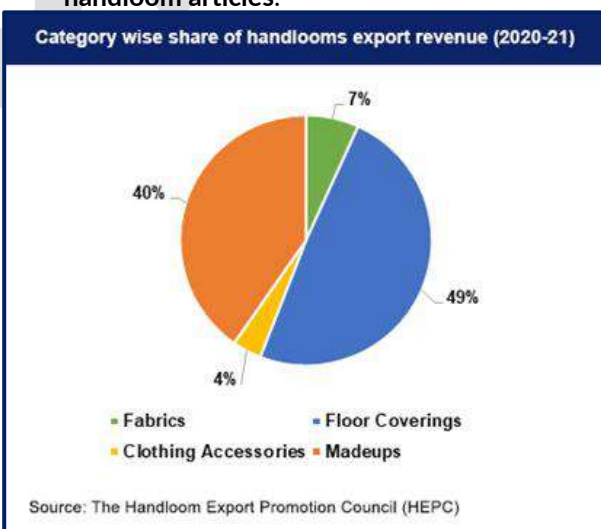
- The handloom industry in India has a long tradition of outstanding artisanship that represents and preserves vibrant Indian culture.
- The handloom industry is the **country's largest cottage industry**, with 23.77 lakh looms.
- It is also the **second-largest employment provider in the rural region** employing more than **3 million people** in direct and allied activities.
- According to the Handloom Census 2019-20**, the industry employs about 3,522,512 handloom workers across the country.
- The industry primarily employs women workers **with a share of 72.29% of the total handloom workers.**

#### Export Trend



#### Majorly Exported Handloom Products

- The majorly exported handloom products from India are **mats and mattings, carpets, rugs, bedsheets, cushion covers and other handloom articles.**



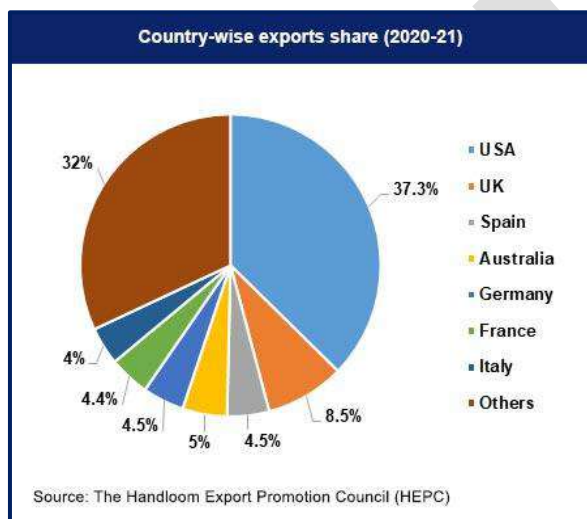
#### Share in exports

- During 2020-21, the mats and mattings exported from the country had a **share of 29% in the total exports.** The home textile constitutes over **60% of India's total handloom exports.**
- Carpets, rugs, and mats made from handlooms had a total share of 13.6% in total exports during 2020-21 at a value of Rs. 224.4 crore.

- During the same period, the **cotton durries exported were valued at Rs. 104.53 crore (US\$ 13 million).**
- Indian silk scarves are popular around the world. These handloom-made products form a sizable chunk of the total handloom exports with 2020-21 exports at Rs. 61.5 crore (US\$ 7.7 million).
- The total linen products made from handlooms, i.e. cotton, bed linen, toilet linen, kitchen linen, bed sheets, napkins, pillowcases, cushion cases, table cloths, etc. had a share of about 23.5% in 2020-21 exports.

#### Major Handloom Export Centers

- The major handloom export centers are **Karur, Panipat, Varanasi & Kannur** where handloom products like Bed linen, Table linen, Kitchen linen, Toilet linen, Floor coverings, embroidered textile materials, curtains etc. are produced for export markets.
- During April 2021-February 2022, India exported handloom products worth Rs. 1,693 crore (US\$ 229 million).



#### **Export Destination**

- India exports handloom products to more than 20 countries in the world.
- Some of the top importers are the **US, the UK, Spain, Australia, Italy, Germany, France, South Africa, Netherlands and UAE.**
- **US is the biggest importer of handloom products from India,** consistently the top importer for the past 8 years.

- During 2020-21, the country imported handloom products worth Rs. 613.78 crore (US\$ 83 million).

#### **Government Initiatives**

##### National Handloom Development Programme (NHDP)

- The NHDP programme has several components that focus on various stages of the handloom business.
- The **Cluster Development Programme (CDP)** provides financial benefits to clusters and during 2021-22, assisted 66 clusters.
- In addition to this, the government **provides Handloom Marketing Assistance (HMA), the Urban Haats scheme and handloom awards** to develop the industry and encourage businesses in India.
- For the development of mega handloom clusters, the Government of India plans to provide financial assistance of Rs. 30 crore (US\$ 3.9 million) to at least 10,000 handlooms.

##### Market Access Initiative (MAI)

- The MAI, **launched in 2018,** was revised in 2021 and will be in effect till March 2026. This scheme will act as a **catalyst to promote India's exports on a sustained basis.** MAI is based on a produce specific approach with market studies and research on evolving the markets.
- The main activities of this initiative are marketing the products internationally, building capacity, supporting statutory compliances, carrying out studies, developing projects, providing portal for foreign trade facilitation and also support the smaller and traditional industries. Through the MAI, various components (**Trade fairs, exhibitions, market research, buyer-seller meets, etc.**) of industry development will have specific ceiling budgets.

#### **Governing Body**

##### The Handloom Export Promotion Council (HEPC)

- The HEPC was **formed in 1965 and is a not-for-profit organization.**

- The council supports and promotes the export of Indian handloom fabrics by undertaking market studies and trade missions, disseminating information, advising

governments and providing guidance and consultancy to exporters.

- The HEPC also organizes and participates in international trade fairs and **buyer-seller meets in India and abroad.**

### 3.15 GIG WORKERS

#### Context

- The Rajasthan Government is working to deliver the Rajasthan Platform-based **Gig Workers (Registration and Welfare) Bill, 2023.**

#### Gig workers

- Gig workers are independent contractors, online platform workers contract firm workers, on-call workers, and temporary workers.
- Gig workers **enter into formal agreements with on-demand companies to provide services to the company's clients.**

#### What is Gig Economy?

- A gig economy is a **free market system in which temporary positions are common** and organizations hire independent workers or freelancers for short-term commitments instead of full-time long-term employees.
- Examples of gig workers include **freelancers, independent contractors, project-based workers** and temporary or part-time hires.

#### Drivers of the Gig Economy

- Here, workforce is **highly mobile and work can be done from anywhere, anytime.** This means that you need not reach at the location of the organization to do the job.
- In the era of disruption it will be safe as it **avoids long term obligations like pension and other emoluments,** when they provide short term contract. The worker can be relieved at any time without any friction.
- The short-term engagements **better fit for the workers to search for the best.**
- **Software and technological changes** taking away human efforts also contributed to the gig economy.

- **Temporary nature of projects** and greater specializations, added to this trend.
- **Uncertain business climate and declining profits** in the context of disruptive innovations also tempted companies to go for short-term labors.

#### Advantages of the gig economy

- **More flexible and more mobile:** Workers have more alternatives to optimize time and income. They can also complete tasks on the go and can better balance work with family.
- **Freedom to choose jobs:** Workers can choose the type of project they will take on. Also, project options are more varied because they come from companies around the world.
- **More opportunities to earn a higher income:** Workers can take on several jobs at once. They may focus on one big project and take on several small jobs to add their income.
- **Facilitates operating efficiency:** Hiring part-time workers is a cheaper and more efficient alternative. The company does not need to pay for training fees or benefits such as insurance. That helps lower operating costs.
- **More choices:** They can select some of the best individuals in their field, according to the company budget. Options are more varied because the supply comes from local workers and from all over the world.
- **Lower fixed costs:** Businesses do not need to provide office space, equipment, and facilities. That reduces fixed costs, enabling them to quickly break-even and economies of scale.
- **Cater to immediate demand:** Gig economy can benefit workers, businesses, and consumers by making work more adaptable to the needs of the moment and demand for flexible lifestyles.



- **Offers specific expertise:** Professional services firms are hiring gig workers to add deep domain expertise to client-impact teams. Majority of professional services contact workers have years of domain-specific knowledge, like consultants.
- **Youth economic productivity:** India has a high share of young population which is only expected to grow. According to economists at IMF, youth inactivity in India is at 30%, the highest among developing countries. The gig economy offers the perfect platform for engagement of youth in productive employment activities.
- **Gender parity:** It is also estimated that the gig economy offers a relatively high gender parity in the workforce, as compared to traditional employment. Most of the workers working in the food delivery business in South East Asia are women workers.
- There is **no certainty, stability or job security** in gig economy.
- **Workers can be terminated anytime** here in a gig economy.
- **Workers do not have bargaining power** in a gig economy.
- Workers **do not get pensions, gratuity, perks etc** that is available for full-time workers.
- There is **no basis on which banks and other financial service providers can extend lines of credit** when steady income is not assured.
- The **social welfare objectives can be neglected** if business and profitable avenues of freelancing are prioritized.
- It is **not accessible for people in many rural areas where internet connectivity and electricity still is a distant dream**. Hence they are deprived of this opportunity and this stems up inequality debate again.
- **Confidentiality of documents etc of the workplace is not guaranteed** When there is a situation where gig worker is potentially working for others as well, including competitors, the employer is wary of what he shares with the gig worker and perennially suspicious.

### Disadvantages of the gig economy

- **Do not get allowances:** Workers don't receive benefits, such as insurance and pensions. Businesses pay them according to the contract. Therefore, they must be selective in choosing jobs.
- **Pay taxes from their own pocket:** If they become permanent workers, the company may pay their income tax. On the other hand, if they work part-time, they don't get that kind of benefit.
- **Less stable income:** Thus, the market demand for a particular job is lower than the available labor supply.
- **Workers are less reliable:** The chances of hiring inappropriate workers are higher. Without a rigorous selection process for hiring permanent employees, companies don't know if they are reliable or just a mere appearance.
- **No experience effect for businesses:** Firms cannot reach a cost reduction from specialization and experience effects. It contrasts with permanent workers whose experience effect allows them to become more skilled and more productive.
- **Work culture:** Temporary workers who come and go in an organization make it difficult to maintain consistent relationships among workers, employers and clients on a long-term basis.
- **Work-life management challenges:** Gig work can be disruptive if the worker isn't used to making their own schedule. Inexperienced workers can easily take on too many gigs, leading to overwork and burnout.
- In few work projects **where teamwork is essential, gig economy becomes dysfunctional** in such a scenario.
- It is **still in a nascent stage** in a country like India.

### India's Gig Economy

- There are now close to **15 million gig workers in India**. Delivery boys, cleaners, consultants, bloggers, etc., are all part of the gig economy.
- The number of flexi or gig jobs **could soar to 90 million in 8-10 years**, with total

transactions valued at more than \$250 billion, contributing an incremental 1.25% to India's gross domestic product (GDP) - Boston Consulting Group (BCG) and Michael & Susan Dell Foundation.

### Way Ahead

- Accelerating access to finance through products specifically designed for platform workers,
- Linking self-employed individuals engaged in the business of selling regional and rural cuisine, street food, etc., with platforms to enable them to sell their produce to wider markets in towns and cities.
- Platform-led transformational and outcome-based skilling,
- Enhancing social inclusion through gender sensitization and accessibility awareness programmes for workers and their families
- Extending social security measures in partnership mode as envisaged in the Code on Social Security 2020.
- Undertaking a separate enumeration exercise to estimate the size of the gig and platform workforce
- Collecting information during official enumerations (Periodic Labour Force Survey) to identify gig workers.
- **Giving due effect to the Code on Social Security:** For the 1st time, the Code on Social Security, 2020 acknowledges platform workers and gig workers as new occupational categories. With that, the platform workers

are eligible for benefits like life and disability cover, old age protection, maternity benefits, provident fund, employment injury benefits, etc.

- **Implementation of the Code** is the need of the hour.
- **Take examples from global best practices:** Amendments to labour laws in Ontario and California have shown a move towards granting employee status to platform workers, thus guaranteeing minimum wage and welfare benefits. This is the view propagated by international agencies in the EU, including the European Trade Union. So, the **Government of India should also consider granting the gig workers the status of employees of the aggregators.** That would automatically provide them all the labor benefits like PF and ESI.
- **Provide chances to gig workers to become independent entrepreneurs:** The **Government should consider providing a loan scheme to the platform workers,** to end their dependency on the platform aggregator companies.
- **Upscaling Technology platforms:** The gig economy presents an opportunity for India to drive job creation and economic growth. Technology platforms operating at scale within an ecosystem of information and services can help unlock efficiency, bring in demand-supply transparency, and drive greater formalization and financial inclusion.

## 3. 16 WORLD DEVELOPMENT REPORT 2023

### Context

- Recently, the World Development Report 2023: Migrants, Refugees, and Societies was **released by the World Bank.**

### World Development Report 2023

- World Development Report 2023 proposes an **integrated framework to maximize the development impacts of cross-border movements on both destination and origin**

**countries** and on migrants and refugees themselves.

- The framework it offers, drawn from labor economics and international law, rests on a **“match and motive” matrix** that focuses on two factors:
  1. How closely migrants' skills and attributes match the needs of destination countries and
  2. What motives underlie their movements.
- This approach enables policymakers to distinguish between different types of

movements and to design migration policies for each. International cooperation will be critical to the effective management of migration.

### Main Messages

#### Focus on people who live outside their country of nationality.

- The main difference between a migrant and a non-migrant is citizenship (or lack thereof) of the destination country and its associated rights.
- Once a migrant is naturalized, they no longer are a migrant: they face the same challenges and opportunities as other citizens—albeit in some cases with the added difficulties encountered by national minorities.

#### Recognize the complexity and the increasing necessity of cross-border movements.

- About **3 percent of the world's population**—184 million people, including 37 million refugees—live outside their country of nationality.
- Some **43 percent live in low- and middle-income countries.**
- Many countries, at all income levels, are both the origin and destination of migrants at the same time.
- Because of demographic divergences and climate change, **migration will become increasingly necessary over the next decades for countries at all income levels.**

#### Distinguish between various types of movements to identify appropriate policy responses.

- How well migrants' skills and attributes match the needs of destination countries largely

determines the economic effects of their movements. The motives underlying movements determine destination countries' obligations under international law.

- **Maximize net gains when people bring skills and attributes that strongly match the needs of their destination society**—for them, their countries of destination, and their countries of origin.
- **Provide international protection to refugees in a manner that can be sustained, financially and socially**—because most refugee situations last many years.
- **Reduce the need for distressed movements, while respecting migrants' human rights and dignity**—and recognize development's key role in this effort.

#### Manage migration strategically—In both origin and destination countries.

- Governments in origin countries should make labor migration an explicit part of their development strategy, while governments in destination countries should use “strong match” migration to meet their labor needs.

#### Manage cross-border movements differently.

- Use bilateral cooperation to strengthen the match of migrants' skills and attributes with the needs of destination economies.
- Organize regional and global responses to address refugee movements and reduce the need for distressed movements. Develop new and predictable financing instruments.
- And listen to voices that are currently underrepresented in many policy debates.

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### 3.17 SHORT TOPICS

## Livestock

### Context

- As many districts in Kerala experience heatwaves livestock farmers are struggling to protect their animals against thermal stress.

### Livestock

- Livestock farming is the process in which animals are raised and domesticated. From which farmers get meat, skin, wool, milk and others.
- Livestock plays an important role in Indian economy.
- About 20.5 million people depend upon livestock for their livelihood.
- Livestock contributes 16% to the income of small farm households as against an average of 14% for all rural households.
- Livestock provides livelihood to two-third of rural community.
- It also provides employment to about 8.8 % of the population in India. India has vast livestock resources.
- Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.

### Findings of 20<sup>th</sup> Livestock Census [2018]

#### Total Livestock population

- The total Livestock population is **78 million** in the country showing an increase of **4.6%** over Livestock Census-2012.

#### Total Bovine population

- Total Bovine population (Cattle, Buffalo, Mithun and Yak) is **79 Million** in 2019 which shows an increase of about **1%** over the previous census.

#### Total number of cattle

- The total number of cattle in the country in 2019 is **49 million** showing an increase of **0.8 %** over previous Census.

#### Female Cattle

- The Female Cattle (Cows population) is **12 million**, increased by **18.0%** over the previous census (2012).

#### Exotic/Crossbred and Indigenous/Non-descript Cattle population

- The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is **42 million** and **142.11 million** respectively.

#### Indigenous/Non-descript female cattle population

- The Indigenous/Non-descript female cattle population has increased by **10%** in 2019 as compared to previous census.

#### Total Exotic/Crossbred Cattle

- The population of the total Exotic/Crossbred Cattle has increased by **9 %** in 2019 as compared to previous census.

#### Total Indigenous/ Non-descript cattle population

- There is a decline of **6 %** in the total Indigenous/ Non-descript cattle population over the previous census. However, the pace of decline of Indigenous/ Non-descript cattle population during 2012-2019 is much lesser than as compared to the 2007-12 which was about **9%**.

#### Total buffaloes in the country

- The total buffaloes in the country are **85 million** showing an increase of about **1.0%** over previous Census.

#### Total milch animals

- The total milch animals (in-milk and dry) in cows and buffaloes are **34 million**, an increase of **6.0 %** over the previous census.

#### Total sheep in the country

- The total sheep in the country is **26 million** in 2019, increased by **14.1%** over previous Census.

#### Goat population in the country

- The Goat population in the country in 2019 is **88 million** showing an increase of **10.1%** over the previous census.

#### Total number of Pigs

- The total number of Pigs in the country is **06 Million** in the current Census, declined by **12.03%** over the previous Census.

#### Other Livestock

- The other livestock including mithun, yak, horses, ponies, mule, donkeys, camel together contribute around **0.23%** of the total livestock and their total count is **24 million**.

### Total Poultry

- The total poultry in the country is **81 million** in 2019, registered an increase of **16.8%** in the total poultry.

### Total Birds

- The total birds in the backyard poultry in the country is **07 million**.
- The backyard poultry has increased by around **46%** as compared to previous Census.
- The total Commercial Poultry in the country is **74 million** in 2019, increased by **4.5%** over previous Census.

### Eastward shift of cattle

- West Bengal emerged as the state with the largest number of cattle in 2019, followed by Uttar Pradesh, and Madhya Pradesh. In 2012, Uttar Pradesh had the largest number of cattle but this population has come down by almost 4 per cent since.
- The cattle population is also down in Madhya Pradesh (4.42%), Maharashtra (10.07%) and Odisha (15.01%).
- States that registered the maximum increases between 2012 and 2019 were West Bengal (15.18%), Bihar (25.18%) and Jharkhand (28.16%).

## **Audit Quality Maturity Model**

### Context

- The Institute of Chartered Accountants of India (ICAI) has launched the **Audit Quality Maturity Model (AQMM)**.

### Aim

- Enhance the quality of audits and improve transparency.

### Audit Quality Maturity Model (AQMM)

- The Audit Quality Maturity Model (AQMM) is a **combination of different Audit Quality Indicators (AQIs)**.
- It helps in the **cross-functional evaluation of key areas of audit engagements and backend practices at the audit firm level**.
- The AQMM has been **developed by ICAI** after detailed International Research and widespread outreach activities conducted across India on systems to **enhance their audit quality**.

### MANDATORY EVALUATION OF THE AUDIT QUALITY MATURITY OF THE FIRMS USING REVISED AUDIT QUALITY MATURITY MODEL (AQMM Rev v1.0)

- ICAI has mandated the **Audit Quality Maturity Model** from April 1, 2023 to all the firms falling under the specified criteria. These are:
  1. A listed entity; or
  2. Bank other than a co-operative bank (except multi-state co-operative banks); or
  3. Insurance Company
- The **firms conducting only branch audits have been excluded** from the mandate.
- These firms are **required to compulsorily self-evaluate their audit quality maturity** using the AQMM.

### **INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA (ICAI)**

The Institute of Chartered Accountants of India (ICAI) is India's largest professional accounting body under the administrative control of the Ministry of Corporate Affairs. It was established on 1 July 1949 as a statutory body under the Chartered Accountants Act, 1949 enacted by the Parliament for the promotion, development, and regulation of the profession of Chartered Accountancy in India. During its nearly six decades of existence, ICAI has achieved recognition as a premier accounting body not only in the country but also globally, for its contribution in the fields of education, professional development, maintenance of high accounting, auditing, and ethical standards. ICAI now is the second-largest accounting body in the whole world.

## **Off-Budget Borrowings**

### News

- To bring Fiscal Transparency, the Centre, in the Budget FY22 ended its practice of **off-budget borrowings** through state-run agencies.

- Now, it wants to pre-pay the remaining outstanding liabilities of Rs 1.7 trillion over a reasonable period.

#### Off-budget borrowings

- Off-budget borrowings refer to loans taken by state government entities, where principal and interest would be repaid from state government's own budget, instead of the cash flows or revenues generated by the borrowing entity.
- Such borrowings bypass the net borrowing ceiling fixed for states in a fiscal year by routing loans outside state budget through government-owned companies or statutory bodies.
- Since the responsibility for repayment lies with states, it adversely impacts their revenue and fiscal deficit.

#### CAG on Off-Budget Borrowings

- The Comptroller and Auditor General (CAG) of India and the 15th Finance Commission (previous commissions as well) had red-flagged the off-Budget funding of welfare schemes through Public Sector Entities and had urged the Centre to come clean on these.

#### State of Off-Budget Borrowings

- The Centre had off-Budget liabilities close to Rs 6.7 trillion by end-FY21.
- It brought about Rs 5 trillion or 75% of such liabilities into the balance sheet in FY21-FY22.

## Small Savings Instruments

### Context

- Despite successive hikes in the interest rates on several small savings instruments (SSIs) in the last three quarters, the returns on five such schemes are still significantly lower than what they should have fetched.

### About

- Small Savings Schemes are a set of savings instruments managed by the central government with an aim to encourage citizens to save regularly irrespective of their age.

- They provide returns that are generally higher than bank fixed deposits and they come with a sovereign guarantee.
- These schemes, which are launched by the government, banks, and public sector financial institutions, offer attractive rates of interest and tax exemptions/benefits on investment.
- Since 2016, the Finance Ministry has been reviewing the interest rates on small savings schemes on a quarterly basis.
- These administered interest rates are linked to market yields on government securities (G-secs).
- All deposits received under various small savings schemes are pooled in the National Small Savings Fund.
- The NSSF is administered by the Government of India, Ministry of Finance under National Small Savings Fund Rules, 2001, which is derived from Article 283(1) of the Constitution.
- Funds collected under SSS are the liabilities of the Union government accounted for in the Public Accounts of India.
- The money in the fund is used by the central government to finance its fiscal deficit.

#### Types and sub-types of Small Savings Schemes



## Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) Scheme

### Context

- Recently, MSME Ministry launched the revamped Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) Scheme.

### Credit Guarantee

- Credit Guarantee refers to a **situation where the loan to the applicant is backed by a party without the need for any external collateral or third-party guarantee.**
- Here, the loan sanctioned by the member lending institution is backed by the scheme which provides the guarantee cover for a large portion of the loan amount.

### CGTMSE - Credit Guarantee Fund Trust for Micro and Small Enterprises

#### About

- Credit Guarantee Funds Trust for Micro and Small Enterprises (CGTMSE) is a **trust established by the Government of India, under the Ministry of Micro, Small and Medium Enterprises (MoMSME) and Small Industries Development Bank of India (SIDBI).**

#### Aim

- The scheme aims to provide credit that was collateral free to the micro and small enterprise segment in India.

#### CGTMSE Eligibility Criteria

- Any existing or new Micro and Small Enterprises that are engaged in service activities or manufacturing activities are eligible for the Trust.
- Exemption**
- The **only exemption** is for Micro and Small Enterprises that are engaged in sectors such as Self-Help Groups, educational institutions, training institutions, and agriculture.

### Revised Scheme Provisions

Interest Rates	<ul style="list-style-type: none"> <li>As per RBI's Guidelines is eligible for coverage under CGTMSE</li> </ul>
Eligible Activities	<ul style="list-style-type: none"> <li>Manufacturing and Services including Retail trade is allowed</li> <li>Educational and Training institutions, Self Help Groups (SHGs), and agriculture-related activities are not eligible</li> </ul>
Loan Amount	<ul style="list-style-type: none"> <li>For Micro and Small Enterprises (MSEs)- Credit facility <b>up to Rs. 500 lakh</b> can be covered on an outstanding basis</li> <li>For Regional Rural Banks (RRBs) and Select Financial Institutions credit facilities <b>up to Rs. 50 lakh is allowed</b></li> </ul>
Guarantee Coverage	<ul style="list-style-type: none"> <li>From 75% – 85% (50% Coverage for retail activity)</li> </ul>
Collateral / Third Party Guarantee	<ul style="list-style-type: none"> <li>Not required</li> </ul>
Eligible Member Lending Institutions (MLIs)	<ul style="list-style-type: none"> <li>More than 100: PSUs, NBFCs, RRBs, Private Banks, SUCBs, FIs, SFBs, and Foreign Banks</li> </ul>
Annual Guarantee Fee for amount up to Rs. 1 crore	<ul style="list-style-type: none"> <li>Fee revised from 2% and <b>reduced to as low as 0.37%</b></li> </ul>

#### Benefits of CGTMSE Scheme.

- Ceiling for Guarantee coverage raised **from Rs. 200 lakh to Rs. 500 lakh.**
- Guarantee fee reduced to diminish the overall cost of borrowings to MSEs.
- Micro Finance Institutions as Member Lending Institutions (MLIs) are now eligible.
- Concessions related to fees and **increased coverage to SC/STs.**
- Reduced Guarantee fee by 10%** and coverage extent increased to 85% to Women, ZED Certified Units and Units in Aspirational Districts.
- Annual Guarantee Fee **structure revised and fee reduced to as low as 0.37%.**

## Lending Institutions offering funds under CGTSMSE Scheme

- Scheduled Commercial Banks (SCBs)
- Regional Rural Banks (RRBs)
- Small Finance Banks (SFBs)
- Non-banking Financial Companies (NBFCs)
- Small Industrial Development Bank of India (SIDBI)
- National Small Industries Corporation (NSIC)
- North Eastern Development Finance Corporation Ltd. (NEDFi)

### Fast Facts

- The lock-in period in CGTMSE is for 18 months.
- All scheduled MLIs, including PSUs, private and foreign banks in addition to selected regional and rural banks and any other bank directed by the Government of India can avail of the guarantee cover under the scheme.
- The Mudra loan is not covered under the CGTMSE scheme.
- Small road and water transport loans that are approved by MLIs are eligible for cover under this scheme.
- Joint financing by a financing institution and a commercial bank can be covered under the scheme.
- Annual guarantee fee can be paid even after the lodging of the claim but it has to be settled before the first installment of 75% of the guaranteed amount. However, one cannot lodge any claim before the expiry of the initial lock-in period and after the expiry of the tenure of guarantee cover.
- Threshold limit for claim settlement without initiation of legal action has been raised to ₹10 lakh.

### Closing Remarks

- CGTMSE has been taking various initiatives which aims at boosting credit flow to MSEs by making the guarantee Scheme attractive for both MSEs as well as for the lenders.
- CGTMSE is collaborating with various State Governments for enhanced guarantee coverage for MSEs in respective States.
- CGTMSE will collaborate with National Institute for Micro, Small and Medium

Enterprises for setting up a Centre of Financial Inclusion for MSME.

- Such measures would enthruse bankers to reduce their dependence on the availability of collateral security which continues to be a problem for MSEs, especially the first-generation entrepreneurs.
- All policy-level modifications, along with other initiatives being taken by CGTMSE, would result in greater utilization of the guarantee mechanism.

## **Advance Pricing Agreement**

### Context

- The Central Board of Direct Taxes (CBDT) has entered into 95 Advance Pricing Agreements (APAs) in FY 2022-23 with Indian taxpayers.

### About

- An advance pricing agreement (APA) is an ahead-of-time agreement between a taxpayer and a tax authority on an appropriate transfer pricing methodology (TPM) for a set of transactions at issue over a fixed period of time.
- India saw the introduction of the Advance Pricing Agreement in the year 2012.
- The Central Board of Direct Taxes came up with this after it saw a huge number of transfer pricing cases held up in dispute.
- The Advance Pricing Agreement is supposed to minimize any confusion that pertains to the pricing of international transactions.
- APA guidelines were included as part of the Income Tax Act, 1961.

Unilateral APA (UAPA)	Bilateral APA (BAPA)	Multilateral APA (MAPA)
<ul style="list-style-type: none"> <li>• Only Indian AE enters into agreement with the Indian tax administration</li> </ul>	<ul style="list-style-type: none"> <li>• Indian AE and a overseas AE agree to the terms of the agreement with the respective tax administrations</li> </ul>	<ul style="list-style-type: none"> <li>• More than two countries' AEs and the tax administrations are involved</li> </ul>

- The main purpose of transfer pricing and APA is to keep a check on big MNCs so that they do not indulge in tax evasion.



### 3.18 SNIPPETS



#### ANTI DUMPING DUTY

- Anti-dumping duty is a tariff imposed on imports manufactured in foreign countries that are priced below the fair market value of similar goods in the domestic market. It is imposed to protect local businesses and markets from unfair competition by foreign imports.
- The use of anti-dumping measures as an instrument of fair competition is permitted by the World Trade Organisation.



#### INTERNATIONAL FINANCE CORPORATION

- Established in 1956, The International Finance Corporation (IFC) is an international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries.
- The IFC is a member of the World Bank Group and is headquartered in Washington, D.C. in the United States.
- It advances economic development and improves the lives of people by encouraging the growth of the private sector in developing countries.



#### MINIRATNA STATUS

##### Context

- Solar Energy Corporation of India Limited (SECI) has been accorded the status of Miniratna Category-I Central Public Sector Enterprise.

##### Details

- The Central Public Sector Enterprises (CPSEs) which have made a profit in the last three years continuously, pre-tax profit is Rs.30 crores or more in at least one of the three years and have a positive net worth are eligible to be considered for grant of Miniratna-I status.
- The CPSEs which have made profit for the last three years continuously and have a positive net worth are eligible to be considered for grant of Miniratna-II status. Miniratna CPSEs should have not defaulted in the repayment of loans/interest payment on any loans due to the Government. Miniratna CPSEs shall not depend upon budgetary support or Government guarantees.

### 3.19 5 MCQS AND 1 MAINS QUESTION

**Q1.** *The rapidly burgeoning gig workforce is ushering in a new economic revolution in India. What drives the Gig Economy? Throw light on the merits and demerits of the Gig Economy. What does the rise of India's Gig Economy entail for the current generation?*

#### Introduction

- In 2020-21, around 77 lakh workers were engaged in the gig economy according to the Niti Aayog study "India's Booming Gig and Platform Economy". The employment elasticity to GDP growth for gig workers was above one throughout the period 2011-12 to 2019-20, and was always above the overall employment elasticity.
- India - with its demographic dividend of half-a-billion labour force and the world's

youngest population, rapid urbanisation, widespread adoption of smartphones and associated technology - is clearly the new frontier of this Economic Revolution of Gig Workforce.

- Notably, a gig economy is a free market system in which organizations hire temporary independent workers for short-term commitments.

#### Drivers of the Gig Economy

- No expenses on company infrastructure since the workforce is highly mobile.
- Avoids long-term obligations like pension and other emoluments.
- Software and technological changes taking away human efforts also contributed to the gig economy.

- **Temporary nature of projects** and greater specializations, added to this trend.
- **Uncertain business climate and declining profits** in the context of disruptive innovations also tempted companies to go for short-term labors.

### Advantages of the gig economy

- **More flexible and more mobile:** Workers can better balance work with family.
- **Freedom to choose jobs.**
- **More opportunities to earn a higher income:** Since, workers can take on several jobs at once.
- **Facilitates operating efficiency:** Hiring part-time workers is a cheaper and more efficient alternative.
- **More choices:** They can select some of the best individuals in their field, according to the company budget.
- **Lower fixed costs:** Since, Businesses do not need to provide office space, equipment, and facilities.
- **Offers specific expertise:** Professional services firms are hiring gig workers to add deep domain expertise to client-impact teams.
- **Youth economic productivity:** According to economists at IMF, youth inactivity in India is at 30%, the highest among developing countries. The gig economy offers the perfect platform for engagement of youth in productive employment activities.
- **Gender parity:** It is also estimated that the gig economy offers a relatively high gender parity in the workforce, as compared to traditional employment. Most of the workers working in the food delivery business in South East Asia are women workers.

### Disadvantages of the gig economy

- **No allowances:** Workers don't receive benefits, such as insurance and pensions.
- **Pay taxes from their own pocket**
- **Less stable income:** Thus, the market demand for a particular job is lower than the available labor supply.

- **Workers are less reliable:** The chances of hiring inappropriate workers are higher.
- **No experience effect for businesses:** Firms cannot reach a cost reduction from specialization and experience effects.
- There is **no certainty, stability or job security** in gig economy.
- **Workers can be terminated anytime** here in a gig economy.
- **Workers do not have bargaining power** in a gig economy.
- There is **no basis on which banks and other financial service providers can extend lines of credit** when steady income is not assured.
- The **social welfare objectives can be neglected** if business and profitable avenues of freelancing are prioritized.
- It is **not accessible for people in many rural areas where internet connectivity and electricity still is a distant dream.**
- **Confidentiality of documents etc of the workplace is not guaranteed**
- **Work culture:** Temporary workers who come and go in an organization make it difficult to maintain consistent relationships among workers, employers and clients on a long-term basis.
- **Work-life management challenges:** Inexperienced workers can easily take on too many gigs, leading to overwork and burnout.
- In few work projects **where teamwork is essential, gig economy becomes dysfunctional** in such a scenario.
- It is **still in a nascent stage** in a country like India.

### Conclusion

- The rise of the gig economy greatly benefits the **new generation of employees, providing new job opportunities and multiple sources of income, as gig workers can work on several jobs simultaneously.** The gig workforce is expected to expand to 2.35 crore (23.5 million) workers by 2029-30. Further, gig workers are expected to form 6.7 percent of the non-agricultural workforce or 4.1 percent of the total livelihood in India by 2029-30. A growing number of independent

workers are becoming more comfortable with the gig economy, with maximum people feeling more financially secure.

- The gig economy presents an opportunity for India to drive job creation and economic growth. The Government of India should also consider **granting the gig workers the status of employees of the aggregators.**
- It's important to **extend social security measures to Gig workers** in partnership mode as envisaged in the Code on Social Security 2020.

**Q2. Consider the following statements with reference to Cost Inflation Index.**

1. It is published by the Central Board of Direct Taxes (CBDT) annually and is based on the Consumer Price Index (CPI).
2. Indexation is applied to calculate the long-term capital gains tax liability on the sale of assets such as property, equity shares, and mutual funds.
3. Benefits of indexation are not applicable for debentures or bonds, apart from RBI issued sovereign gold bonds or capital indexation bonds.

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

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

**Correct Answer: d**

**Q3. Consider the following statements.**

1. The elephant has been declared the National Heritage Animal by The Government of India in 2010.
2. Project Elephant was launched in the year 1992 as a Central Sector Scheme.
3. MIKE program started in 2003 after the conference of parties a resolution of CITES tracks information related to illegal elephant killings across Asia and Africa to monitor the effectiveness of conservation efforts.
4. Tamil Nadu has the highest number of elephants as per the Elephant Census 2017.

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

- A. 1 and 2 only
- B. 3 and 4 only
- C. 1 and 3 only
- D. 1,2,3 and 4

**Correct Answer: C**

**Explanation:**

*Project Elephant was launched by the Government of India in the year 1992 as a Centrally Sponsored Scheme.*

*Karnataka has the highest number of elephants as per the Elephant Census 2017, with 6,049 elephants.*

**Q4. Consider the following statements with reference to CGTMSE - Credit Guarantee Fund Trust for Micro and Small Enterprises.**

- a) Credit Guarantee Funds Trust for Micro and Small Enterprises (CGTMSE) is a trust established by the Government of India, under the Ministry of Micro, Small and Medium Enterprises (MoMSME) and Small Industries Development Bank of India (SIDBI).
- b) Self-Help Groups, educational institutions, training institutions, and agriculture sector are eligible for the Trust.
- c) The Mudra loan is not covered under the CGTMSE scheme.
- d) Ceiling for Guarantee coverage under the Credit Guarantee Funds Trust for Micro and Small Enterprises (CGTMSE) has been raised from Rs. 200 lakhs to Rs. 500 lakhs.

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

- A. 1 and 2 only
- B. 3 and 4 only
- C. 1,3 and 4 only
- D. 1,2,3 and 4

**Correct Answer: C**

**Explanation:**

*Self-Help Groups, educational institutions, training institutions, and Agriculture sector are not eligible for the Trust.*

**Q5. Consider the following statements with reference to the First Census of Waterbodies in India.**

1. India has 50 lakh water bodies like ponds, tanks and lakes.
2. 70 percent of waterbodies in India are ponds.

3. Odisha tops the list of States with the most ponds and reservoirs: 47 lakhs.
4. The census collected data on the encroachment of waterbodies for the first time.

Which of the statements given above are incorrect?

- A. 1 and 2 only
- B. 3 and 4 only
- C. 1,3 and 4 only
- D. 1,2,3 and 4

**Correct Answer: C**

**Explanation:**

India has 24 lakh water bodies like ponds, tanks and lakes.

59.5 per cent of waterbodies are ponds.

West Bengal tops the list of States with the most ponds and reservoirs: 47 lakh.

The census also collected data on the encroachment of waterbodies for the first time.

**Q6. Consider the following statements with reference to Biodiversity Heritage Sites (BHS) in India.**

- a) The State Government in consultation with the Central Government may frame rules for the management and conservation of BHS.
- b) Bengal now has the highest number of biodiversity heritage parks in the country.
- c) The Amkholi Fossil Park is a BHS and it is the first wood fossil park in Karnataka.
- d) There are now 38 biodiversity heritage sites in India.

Which of the statements given above are correct?

- A. 1 and 2 only
- B. 3 and 4 only
- C. 1,3 and 4 only
- D. 1,2,3 and 4

**Correct Answer: A**

**Explanation:**

The Amkholi Fossil Park near Ilambazar in Birbhum district is the first wood fossil park in West Bengal.

Bengal now has the highest number of biodiversity heritage parks in the country.

There are now 40 biodiversity heritage sites in India.

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- Prelims Cum Mains Batch
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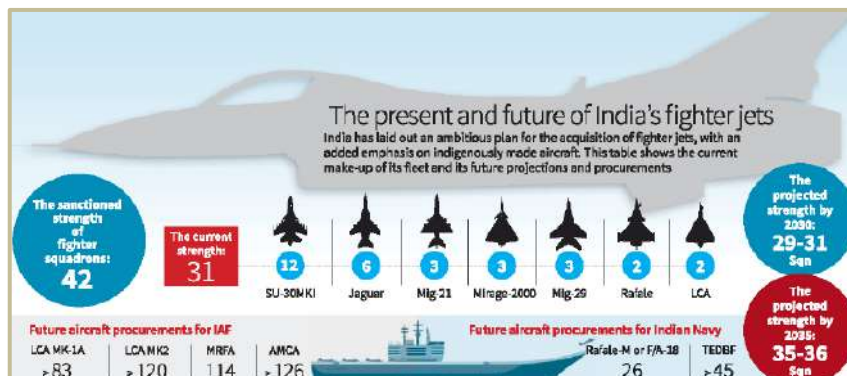


## 4. DEFENCE & SECURITY

### 4.1 INDIA'S FIGHTER JET CONUNDRUM

#### Context

- Against the sanctioned strength of 42 fighter squadrons, India today has 31 squadrons which won't go up in the next decade, but on the contrary can go further down by 2029.
- A squadron typically has 18 aircraft.



#### More phase outs in the near future

Aircraft	Phase out Timeline
3 Mig-21 Squadrons	2025
Jaguars, Mirage-2000s and Mig-29s	By 2030
SU-30	By early 2040

#### Deals in pipeline

- The IAF has in total contracted 272 SU-30s.
- A deal to procure 12 additional SU-30MKIs as well 21 additional MIG-29s from Russia has been stuck, though both IAF and Russian officials state that it has only been delayed but is on track.
- India has an ambitious plan lined up for the acquisition of over 500 fighter jets, a bulk of them to be indigenously designed and manufactured, with a majority of them being for the IAF.
- However, these are at various stages of development. Their manufacturing and timely deliveries are critical.

#### Indigenous fighter ecosystem

Aircraft	Features
Light Combatant Aircraft (LCA)	<ul style="list-style-type: none"> <li>Fulcrum of the indigenous jet development programme, originally intended as a Mig-21 replacement, has seen a series of delays and has now come back on track.</li> <li>In February 2020, the Defence Ministry signed a ₹48,000 crore deal with HAL for 83 LCA-MK1A.</li> <li>LCA-MK2, which received sanction from the Cabinet Committee on Security (CCS) in 2022 at a total cost of ₹9000 crore, is expected to be ready for production by 2027.</li> </ul>
Advanced Medium Combat Aircraft (AMCA)	<ul style="list-style-type: none"> <li>The fifth generation Advanced Medium Combat Aircraft (AMCA) is awaiting CCS sanction, the development of which would take 10 years after that.</li> </ul>
Twin Engine Deck Based Fighter (TEDBF)	<ul style="list-style-type: none"> <li>There is also a Twin Engine Deck Based Fighter (TEDBF) on the drawing board for the Navy's aircraft carriers.</li> <li>The TEDBF is expected to take first flight by 2026 and be ready for</li> </ul>

MRFA	<p>production by 2031.</p> <ul style="list-style-type: none"> <li>• <b>A reincarnation of the earlier Medium Multi-Role Combat Aircraft (MMRCA) contest for 126 jets.</b></li> <li>• The RFI for 114 MRFA was issued in April 2019 to global aircraft manufacturers but there has been no progress and the project is yet to receive the Acceptance of Necessity.</li> </ul>
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### India Vs China Vs US

- While India is progressing, it still seems to be far off as compared to China and the US.
- China has an unknown number of Chengdu J-7s (fighters) and Shenyang J-8s (interceptors) operational as of July 2019. The J-7s and J-8s are third-generation; the J-10s, J-11s and J-16s are fourth-generation, while the J-20 is China's sole fifth-generation jet.
- As of April 2022, the US has 450 Lockheed Martin F-35 Lightning IIs (stealth multirole fighters) and 123 Lockheed Martin F-22 Raptors (air superiority) as of May 2020. F-22 and the F-35 are fifth-generation jets.

### Way Forward

- There are three pathways through which a nation's defence sector can advance—
  - implementing indigenous national-level research and development (R&D) programmes,
  - collaborating with a foreign partner to develop the requisite technology and
  - purchasing foreign technology.
- It can be done by either one of these or a combination of them all.

## 4.2 IMPORT & SMUGGLING OF GOLD

### Context

- With **global gold prices soaring over the past year and the government raising import duties** on the yellow metal, gold smuggling seems to have become an attractive side hustle for some aviation staff.

### Details

- Between April 2022 and February 2023, the Department of Revenue Intelligence and customs authorities booked 29 cases involving about 81 kg of seized gold where airline cabin crew members or airport staffers were implicated.
- This is **twice the average number of such cases detected in the previous three years**, including the pre-COVID year of 2019-20.

### Facts

SMUGGLING	<ul style="list-style-type: none"> <li>• According to DRI's Smuggling in India Report 2021-22, a <b>total 833 kg of smuggled gold</b> was confiscated in FY 2021-22.</li> <li>• In the last 10 years, <b>Maharashtra has smuggled most of the Gold in India followed by Tamil Nadu and Kerala.</b></li> <li>• 73% of the gold caught had been brought through <b>Myanmar and Bangladesh.</b></li> </ul>
IMPORT	<ul style="list-style-type: none"> <li>• In 2021, India bought 611 tonnes of gold jewellery, second only to China (673 tonnes).</li> <li>• <b>Imports of the yellow metal stood at \$45.2 billion in the corresponding period of 2021-22.</b></li> </ul>

## What is Smuggling?

- It is defined as “the clandestine import of goods from one jurisdiction to another.”
- According to the Customs Act, 1962 the term “smuggling” has vast connotations and means “any act or omission which will render such goods liable for confiscation under Sections 111 or 113 of the said Act.”

## Impact on the Country

- The effects of smuggling are numerous and economically significant. Smuggling is a serious problem and its impacts are far reaching, affecting various stakeholders. **Impacts can be summarised as:**
  - Direct Loss to Government Revenues
  - Negative Impact on Local Industries
  - Threat to Society
  - Health and Safety Risks
  - Impact on Innovation and Investment

## Determinants of Smuggling

- From a microeconomic viewpoint, there are various determinants for smuggling or illegal trade. These factors lead smugglers to adopt different ways and means of smuggling. **Following are key factors that determine extent of smuggling into a country:**
  - High Tariff Rates
  - Rule of Law Restrictions and Prohibitions
  - Extent of Corruption
  - Price and Type of Product
  - Lack of Innovation
  - Weaknesses of Domestic Industry
  - Demand-Supply Gap

## Reasons for gold smuggling in India

- Smuggling of gold in India is primarily driven by the demand and supply gap, where imports fulfil about 90% of the total requirements.
- **The continued demand, relatively price inelasticity of gold demand, low domestic supply of gold, increasing GDP per capita provides unscrupulous persons opportunity to smuggle gold while evading taxes of the legal channels.**
- Indigenous availability of raw material plays a crucial role in the growth of any industry; the

Indian gold jewellery industry is almost completely dependent on imported raw materials. Almost 90% of requirement are fulfilled by imports.

- **Limited recycling and inefficient mining of gold** are the main reasons for low domestic supply of gold. Less than 10% of total above ground stock in India is used for recycling and goes into domestic supply.
- Further, **demand for gold in India is unique and to some extent inelastic to price.**
- In addition, **there lies a significant price arbitrage between domestic and international market that provides strong financial incentives for smugglers to earn handsome profit.**

## Legal and Institutional Framework for Control of Smuggling

- Customs Act, 1962
- Smugglers and Foreign Exchange Manipulators (Forfeiture of Property) Act, 1976
- Central Board of Excise and Customs
- Directorate of Revenue Intelligence (DRI): It is India's chief anti-smuggling intelligence, investigations and operations agency. It works under the Central Board of Indirect Taxes and Customs (CBIC), Ministry of Finance. It is headquartered in New Delhi.
- Intelligence/ Information Gathering Mechanism

## Challenges in Dealing with Smuggling

- The rapidly changing global trading environment, marked by steadily growing volumes and complexity of supply chains, and heightened security concerns have had a large impact on the role and functions of Customs administrations everywhere.
- On the one hand, globalisation has been an engine of economic growth, enhancing the importance of the trade facilitation role of Customs.
- On the other, it continues to offer new opportunities for criminal organisations to engage in new types of frauds, posing

multidimensional challenges to Customs administrations.

- The **structural and operational challenges that the Customs authority in India face in controlling the spread of smuggling are:**
  - Large and Porous Border
  - Interdiction-Adaptation Cycle between Customs/ Border Enforcement and Transnational Smugglers
  - Complexity of Transportation Geography
  - Institutional and Inter-Organisational Coordination Problems
  - Human Resource Constraints
  - Safe and Secure Dissemination of Information
  - Lack of Adequate Infrastructure
  - Weak Enforcement and Rule of Law
  - Lack of Knowledge and Practical Acquaintance of Enforcement Agencies
  - Corruption and Coalition of Enforcement Agencies
  - Operational Policies of Customs
  - Department Emergence of E-Commerce

### Concluding remarks

- Smuggling severely harms the economy of a country in multidimensional ways. It undermines the local industry, suppresses innovation and investment, discourages legal imports, reduces the volume of revenues collected from duties and levies by the government, fuels transnational crimes.
- **A number of steps that can be undertaken are enumerated:**
  - Strengthening domestic manufacturing and reducing demand-supply gap
  - Strengthening Risk Management Capabilities of Customs
  - Leveraging Technology and boosting Innovation
  - Rationalisation of Tariffs
  - Stronger enforcement of: Punishments and Rule of Law
  - Electronic Tracking System
  - Capacity building of Human Resource at Customs
  - Better Coordination among various Enforcement Agencies

## 4.3 ARMY COMMANDERS CONFERENCE (ACC)

### Context

- The first ACC for the year 2023 was recently held from 17 to 21 April 2023.

### About

- Army Commanders' Conference (ACC) is an **apex-level biannual event which is an institutional platform for conceptual level deliberations, culminating in making important policy decisions for the Indian Army.**
- For the first time, the ACC was conducted in **Hybrid format.**
- The Army Commanders and other senior functionaries **took stock of the current / emerging security scenarios and reviewed the operational preparedness and readiness of the Indian Army.**
- The forum reviewed the pan-India, quantified progress on the ongoing transformational initiatives in the key domains of Force

Structuring & Optimisation, Modernisation & Technology Infusion, Processes & Functions, Human Resources Management, and Jointness and Integration as part of **"Year of Transformation" announced in January 2023.**

- Progress on efficient implementation of the Agnipath Scheme was deliberated upon in detail.
- The Apex leadership also **identified specific areas and actionable points for promoting jointness and integration with other Services and government agencies.**

### Decisions undertaken

#### Command Cyber Operations and Support Wings

- The ACC had decided to operationalise Command Cyber Operations and Support Wings (CCOSWs) in the immediate future with current focus on net-centric operations.



### What is the need?

- With **rapid migration towards net centricity**, which entails an increased reliance on modern communication systems, the forum reviewed the requirement to safeguard the networks and decided to operationalise **Command Cyber Operations and Support Wings (CCOSW)** in the immediate future.
- The expansion of cyber warfare capabilities by India's adversaries has made the **cyber domain more competitive and contested than ever before**.
- Hence, to **safeguard the networks and increase preparedness levels** in this niche domain, CCOSWs are being raised.

### Role

- These organisations will **assist the formations to undertake the mandated cyber security functions to strengthen the cyber security posture of the Army**.

### Lead Directorates and 'Test Bed' Formations

- In order to augment the capabilities of the forces by **absorption of Niche Technologies** and equipment, it was decided to **nominate Lead Directorates and 'Test Bed' Formations** to evolve optimal employment philosophies and scaling to facilitate better exploitation Pan Army.

### Technical Entry Scheme

- In the **TES entry scheme** for entry of officers, it was decided to **transit from the existing 1+3+1 years Technical Entry Scheme (TES) model for to 3 + 1 TES model from Jan 2024 onwards**.
- This change will also accrue benefits of the availability of more number of officers in the units and address officers' shortages.
- For the officers' entry to the Indian Army as B Tech graduates, a five-year TES model is currently being followed.
- Under this model, one year military training is imparted at the Officers Training Academy (OTA), Gaya.

### Other decisions

- Training initiatives to optimise on infrastructure, time and resources to maintain an effective and lethal fighting force were widely deliberated upon.
- It was decided to **train motivated soldiers for Paralympic events, and double the sustenance allowance to specially-abled children of personnel killed in the line of duty through the Army General Insurance Fund (AGIF)**.

## 4.4 LEFT-WING EXTREMISM

### Context

- **Ten personnel of the Chhattisgarh Police's District Reserve Guard (DRG) and the civilian driver of their vehicle were reported killed in an IED attack by Maoists in the state's Dantewada district.**
- The attack took place more than two years after the April 2021 ambush by Maoists in Chhattisgarh's Bijapur district, in which 22 security forces personnel were killed.

### Tactical Counter-Offensive Campaigns

- The **CPI (Maoist) carries out Tactical Counter Offensive Campaigns (TCOCs) between February and June every year**, in which the focus of its military wing is to inflict casualties on security forces.

- This period is chosen because with the onset of the monsoon in July, it becomes difficult to conduct offensive operations in the jungles.
- Almost all major attacks by Maoists on security forces have taken place during the TCOC period.

### What is the current LWE situation in the country?

- The **influence of Maoists and associated violence has been falling consistently in the country** because of multiple factors, including:
  - a stronger push by security forces in Maoist strongholds,
  - roads and civic amenities reaching the interiors to a greater extent than earlier, and

- a general disenchantment with the Maoist ideology among the youth, which has deprived the insurgent movement of new leadership.



- According to the government, Maoist violence in the country has gone down by 77% since 2010.
- The number of resultant deaths (security forces + civilians) has come down by 90 % from the all-time high of 1,005 in 2010 to 98 in 2022.

### Geographical spread

- The government has cut the number of districts declared to be Naxal-affected from over 200 in the early 2000s to just 90 now, and claims that the **geographical spread of violence is actually restricted to just 45 districts.**
- The presence of Naxals is said to be minimal to zero in Andhra Pradesh, Telangana, Odisha, Jharkhand, and Bihar, which were at one time their strongholds.
- The arc of violence has been considerably restricted with **just 25 districts accounting for 90% of the LWE violence.**
- Budha Pahad, a 55 sq km forested area between Chhattisgarh and Jharkhand, considered to be the last bastion of Maoists in Jharkhand, had been freed of the insurgents.
- Central government has **vowed to rid the country of the Maoist problem by 2024.**

### **Important initiatives for LWE affected states**

- In order to holistically address the LWE problem in an effective manner, Government has formulated **National Policy and Action Plan** adopting multi-pronged strategy in the

areas of security, development, ensuring rights & entitlement of local communities, etc.

### Schemes under Umbrella Scheme 'Modernization of Police Forces'

- **Security Related Expenditure (SRE) Scheme:** the central Govt. reimburses to the State Governments of 10 LWE affected States Security Related Expenditure of 70 districts.
- **Special Central Assistance (SCA) for most LWE affected districts:** The main objective of the Scheme is to fill the critical gaps in Public infrastructure and Services.
- **Special Infrastructure Scheme (SIS):** Under the scheme funds are provided to States for strengthening the infrastructure related to Security.
- **Scheme of Fortified Police stations:** Under the scheme 400 Fortified Police Stations have been constructed in 10 LWE affected States.
- **Assistance to Central Agencies for LWE management Scheme:** Under the Scheme, assistance is provided to Central Agencies (CAPFs/IAF etc.) for strengthening of infrastructure and hiring charges for Helicopters.
- **Civic Action Programme (CAP):** aims to bridge the gaps between Security Forces and local people through personal interaction and bring the human face of SFs before the local population.
- **Media Plan:** activities like Tribal Youth Exchange programmes organised by NYKS, radio jingles, documentaries, pamphlets etc. are being conducted.

### Others

- **Road Requirement Plan-I (RRP-I) for LWE affected areas:** This Scheme is being implemented by Ministry of Road Transport & Highways for improving road connectivity in 34 LWE affected districts of 8 States.
- **Road Connectivity Project for LWE affected areas (RCPLWE):** The Government approved this scheme in 2016 for further improving road connectivity in LWE affected States.
- **LWE Mobile Tower Project:** To improve mobile connectivity in the LWE areas.
- **Aspirational District:** The Ministry of Home Affairs has been tasked with the monitoring

of Aspirational districts programme in 35 LWE affected districts.

- CRPF raised a **Bastariya Battalion** the recruits for which were taken from the local population, who knew the language and terrain, and could generate intelligence.
- The Centre has also unleashed the **counter-terrorism National Investigation Agency (NIA) and the Enforcement Directorate on CPI(Maoist) cadres, leaders, and sympathisers** with the aim to choke their funding.
- **Review and monitoring mechanisms:** These include intelligence sharing through Multi-Agency Centre (MAC) at the Central and State levels, and Multi Agency Centre (SMAC) at the subsidiary level on a 24x7 basis.
- For financial inclusion of the people in LWE affected districts, **Post Offices, Bank Branches, ATMs and Banking Correspondents have been opened** and for imparting quality education to the youth in areas affected by LWE, special focus is given to opening of **Eklavya Model Residential Schools (EMRS)**.
- **Surrender and Rehabilitation Policy is also there.**
- **SAMADHAN** doctrine is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-
  - S- Smart Leadership,
  - A- Aggressive Strategy,
  - M- Motivation and Training,
  - A- Actionable Intelligence,
  - D- Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
  - H- Harnessing Technology,
  - A- Action plan for each Theatre,
  - N- No access to Financing.

### Background

- Maoist motto, "power flows from the barrel of gun", is their motivating force.
- Naxalites seek to overthrow the State through violent means.

- They openly proclaim lack of faith in the democratic means of ballot and adhere to the violence as a means of achieving their ends.
- **Naxal affected areas in India are known as the 'Red Corridor'.**
- **The Naxal movement started with the tribal-peasant uprising against landlords in Naxalbari village of Darjiling district, West Bengal in 1967.**

### Causes of left-wing extremism in India

- The **failure of land reforms** especially land redistribution after independence.
- **Socio-economic inequities, unemployment, despair about the future.**
- Dishonest and self-serving dominant groups
- **Political deprivation** leading to hopelessness or a sense of powerlessness.
- **Lack of title to public land cultivated by the landless poor.**
- Governance deficit in the remote parts of Red Corridor regions.
- **Lack of food security**- corruption in the Public Distribution System (which are often non-functional).
- Disruption of traditional occupations and lack of alternative work opportunities.
- **Displacement of people:** Eviction from lands traditionally used by tribals.

### Way Forward

- **Innovative measures are required to be employed in preventing IED(Improvised Explosive Device) related incidents** which have caused significant casualties in recent years.
- Emphasis should be laid on the **capacity-building and modernization of the local police forces.**
- States should **rationalize their surrender policy** in order to bring innocent individuals caught in the trap of LWE in the mainstream.
- States also need to **adopt a focused time-bound approach to completely eliminate LWE groups and ensure all-round development of the affected regions.**
- What makes the **LWE particularly disturbing is its correlation with the demographic youth**

bulge in the general Indian population. If the Indian state fails, the widespread unemployment could lead to a serious internal security situation. LWE is its first manifestation.

- The adverse casualty ratio in police-Naxal operations highlights the fact that insurgencies are best tackled by military

forces that are trained and structured for this role

- The Centre and the States should make efforts in sync that are crucial in eliminating such radicalization amongst groups (like confidence-building measures, education, welfare schemes etc)

## 4.4 SHORT TOPICS

### SLINEX-23

#### Context

- The 10th edition of India-Sri Lanka bilateral maritime exercise SLINEX-23 started in Colombo.

#### Details

<b>Representatives of Indian Navy</b>	<ul style="list-style-type: none"> <li>• Indian Navy is being represented by <b>INS Kiltan, an indigenous Kamorta class ASW corvette</b> and <b>INS Savitri, an Offshore Patrol Vessel.</b></li> </ul>
<b>Aim of the exercise</b>	<ul style="list-style-type: none"> <li>• SLINEX aims at enhancing interoperability, improving mutual understanding and exchanging best practices while jointly undertaking multi-faceted maritime operations.</li> </ul>
<b>Background</b>	<ul style="list-style-type: none"> <li>• SLINEX (Sri Lanka India Naval Exercise) are a series of naval exercises between the Indian Navy and the Sri Lanka Navy.</li> <li>• The first SLINEX exercise took place in 2005.</li> </ul>

### Extended Range Anti-Submarine Rocket

#### Context

- The Extended Range Anti Submarine Rocket (ER-ASR) designed by two Pune-based facilities of the Defence Research and Development Organisation (DRDO) was successfully test-fired for the first time from Navy's INS Chennai.

#### Details

<b>Developed by</b>	<ul style="list-style-type: none"> <li>• The ER-ASR was designed and developed by Pune-based Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL).</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>• The rocket system will be deployed in anti-submarine operations and will be fired from an indigenised rocket launcher mounted onboard various Indian naval ships.</li> <li>• ER-ASR can be fired in single or in salvo mode depending on the tactical mission requirements.</li> <li>• Maximum range of 8.5 kms.</li> </ul>
<b>Need</b>	<ul style="list-style-type: none"> <li>• Rocket has been designed to replace the existing Russian-origin Rocket Guided Bombs (RGBs).</li> <li>• While the RGB has a range of five kilometers, the ER-ASR can achieve a range over eight kilometers.</li> </ul>

## High Mobility Artillery Rocket Systems

### Context

- US President Joe Biden's administration announced an **additional package of military aid to Ukraine totalling \$2.6 billion.**

### About HIMARS

<b>What it is?</b>	<ul style="list-style-type: none"> <li>The M142 High Mobility Artillery Rocket System (HIMARS) is a <b>full-spectrum, combat-proven, all-weather, 24/7, lethal and responsive, wheeled precision strike weapons system.</b></li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>HIMARS is a <b>C-130 air transportable wheeled launcher</b> mounted on 5-ton Family of Medium Tactical Vehicles XM1140A1 truck chassis organic/assigned to Field Artillery Brigades.</li> <li>The current HIMARS includes an increased crew protection armored cab.</li> <li>HIMARS supports an expeditionary, lethal, survivable, and tactically mobile force.</li> </ul>
<b>Use</b>	<ul style="list-style-type: none"> <li>HIMARS is <b>designed to support joint early and forced entry expeditionary operations with high-volume destructive, suppressive, and counter-battery fires.</b></li> </ul>

## Combined Commanders' Conference 2023

### Context

- PM Modi took part in the Combined Commanders' Conference 2023 which was held in Bhopal.

### About the conference

<b>What it is?</b>	<ul style="list-style-type: none"> <li>Combined Commanders' Conference is a <b>biennial event</b> where the country's top military brass come together to brainstorm on military matters and national security.</li> </ul>
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### About the present edition

- The three-day Combined Commanders' Conference began on March 30 with the **theme of 'Ready, Resurgent, Relevant'**.
- Discussions on a wide range of topics, including national security and developing a joint military vision for the future, took place during the event.

### Need

- With the **presence of the top military brass of India on one platform**, the Conference served as an **opportunity for them to review the overall modernisation of the armed forces and for discussing ways to make further improvements in the country's defence capabilities.**

## Ajeya Warrior

### Context

- India and the United Kingdom began the seventh edition of the bilateral training exercise Ajeya Warrior 2023.

### About

<b>Background</b>	<ul style="list-style-type: none"> <li>In <b>2013</b>, the first military training took place.</li> <li>The 6th edition of the India-UK Joint Company Level Military Training Ajeya Warrior exercise took place in Chaubatia, Uttarakhand in 2021.</li> </ul>
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Objective	<ul style="list-style-type: none"> <li>The exercise is part of an initiative to <b>develop interoperability and share expertise with friendly foreign nations.</b></li> <li>It aims to provide pieces of training to the soldiers of both nations in counter-insurgency and counter-terrorism operations and has proved to be an excellent strategy for strengthening the ties between them.</li> </ul>
Other Bilateral Exercises	<ul style="list-style-type: none"> <li><b>Exercise Indradhanush:</b> a joint air force exercise that aims to improve mutual operational understanding between the two air forces through close interaction. The exercise began in the year 2006.</li> <li><b>Exercise Konkan:</b> It is a naval exercise held by India and the United Kingdom. It began in 2004.</li> </ul>

### About

What Are They?	<ul style="list-style-type: none"> <li>Unlike simple bombs, <b>guided bombs have small wings and tail surfaces that allow them to be put into gliding flight.</b></li> <li>On the one hand that allows for <b>precise targeting</b>, on the other hand, the bombs can <b>hit targets at a great distance from where they are dropped.</b></li> </ul>
Types	<ul style="list-style-type: none"> <li>Russia currently has two types of guided bombs.</li> <li>They have had the modern, <b>satellite-guided UPAB-1500B</b> for as few years now, however, due to its extremely high production costs, such bombs are used sparingly.</li> <li>The high-explosive <b>FAB-type bombs</b> are equipped with wings and a satellite control system, an upgrade to a high-precision weapon.</li> </ul>
Advantage	<ul style="list-style-type: none"> <li>The range of the glide bombs allows Russia to bomb Ukrainian territories from their own airspace or the airspace of Russian-occupied territories.</li> </ul>

## Guided Bomb

### Context

- Russia is increasingly attacking Ukraine with guided bombs, according to information by the Ukrainian Air Force.
- The Russian air force previously only sporadically used such weapons, but recently, guided bomb hits daily were registered along the entire front line.

## 4.5 SNIPPETS



### CYBER SURAKSHIT BHARAT INITIATIVE

- National e-Governance Division (NeGD), under its Capacity Building scheme of MeitY, has organised 35th Chief Information Security Officers (CISO) Deep-Dive training programme.
- The programme, Cyber Surakshit Bharat, an initiative of MeitY was conceptualised with the mission to spread awareness about cyber-crime and build capacities of CISOs and frontline IT officials, across all government departments
- It aims to ensuring adequate safety measures so that organisations can defend their digital infrastructure and become future-ready in tackling cyber-attacks.
- Launched in 2018, the CISO training is the first-of-its-kind of partnership between the Government and industry consortium under Public Private Partnership (PPP) model.



### EXERCISE ORION

- An Indian Air Force (IAF) contingent will participate in Exercise Orion at Mont-de-Marsan. This would be the first overseas exercise for the IAF's Rafale aircraft.
- "Exercise ORION 2023" is the first exercise in what French Joint Forces Command hopes will be a triennial cycle of exercises aimed at reinforcing joint forces operational readiness.
- ORION is based on a scenario developed by NATO to apprehend the different phases of a modern conflict and will be on a scale unprecedented in recent decades.
- Orion is reportedly the largest ever multinational exercise being carried out by the French defence forces which have involved their Army, Navy and Air Force along with their allies the US and the UK.



### MERAJ-532

- Iran's Islamic Revolution Guards Corps (IRGC) has successfully tested a homemade long-range, high-precision kamikaze drone equipped with a 50-kg warhead.
- The unmanned aerial vehicle (UAV), named "Meraj-532", has a range of 450 km, and is capable of flying at a maximum altitude of 12,000 feet for three straight hours.
- Kamikaze drones are small unmanned aircraft packed with explosives that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes.



### PRALAY BALLISTIC MISSILE

- India is going to buy 250 more Pralay ballistic missiles for the services to strengthen them on the northern borders, further boosting the firepower of the defence forces.
- Pralay, which has a range of 150 to 500 kilometres, is propelled by a solid-propellant rocket motor and other novel technologies.
- It is an indigenous short-range ballistic surface-to-surface (SRBM) missile.
- The missile will be India's first tactical quasi-ballistic missile.
- It is capable of carrying a conventional warhead of about 350 kg to 700 kg, which gives it a deadly punitive capability.



## HARPOON MISSILES

- Taiwan will buy as many as 400 U.S. land-launched Harpoon missiles in the face of rising threat from China.
- The Harpoon, first deployed in 1977, is an all-weather, over-the-horizon, anti-ship missile system.
- It has a low-level, sea-skimming cruise trajectory with active radar guidance, according to Boeing.

### 4.5 1 MAINS QUESTION AND 5 MCQS

**Q1. India's dwindling squadron strength calls for a push to the indigenous defence manufacturing industry. Do you agree? Justify. (250 words)**

#### Context

- Against the sanctioned strength of 42 fighter squadrons, **India today has 31 squadrons** which won't go up in the next decade, but on the contrary can go further down by 2029.

#### India Vs China Vs US

- While India is progressing, it still seems to be far off as compared to China and the US.
- China has a number of Chengdu J-7s (fighters) and Shenyang J-8s (interceptors) operational as of July 2019. As of April 2022, the US has 450 Lockheed Martin F-35 Lightning IIs (stealth multirole fighters) and 123 Lockheed Martin F-22 Raptors (air superiority) as of May 2020.

#### Possible solutions

- There are three pathways through which a nation's defence sector can advance—
  - implementing indigenous national-level research and development (R&D) programmes,
  - collaborating with a foreign partner to develop the requisite technology and
  - purchasing foreign technology.
- It can be done by either one of these or a combination of them all.

**Why indigenous defence manufacturing industry is the right option?**

- Indigenised defence production is a significant factor that provides **strategic**

**independence to a nation**, thereby exponentially increasing national security. Recent wars that have occurred in the world have amply indicated that the **21st century belongs to aerospace power** which is normally characterised by speed of response, adaptability to changing situations, long reach, precision-targeting capabilities to minimise collateral damage and resources to transport all forms of national power, wherever and whenever required.

- The **volatile geo-political and security situation in the region**, combined with India's aspirations to become a regional power with a global reach, has made it imperative to possess all-encompassing military wherewithal, **especially in the aerospace sector**.
- The capability should preferably be made within the country, as the **problems associated with dependency on foreign sources have been made harshly evident after the disintegration of the USSR**.

#### Way Forward-Multidirectional Efforts

- The aerospace industry needs to work on multiple fronts to achieve success. It needs to develop a strong supplier system, innovate/develop new technologies and acquire expertise by absorption of high-end technology through partnerships with foreign manufacturers.
- One key factor for the success of such alignments would be the commitment of the GoI in terms of volumes and timelines for procurements.
- Disaggregated manufacturing, creating clusters and exports are just three of the



many strategies that need to be followed to initiate indigenous manufacture in the aerospace sector.

**Q2. Which of the following are the reasons for the increasing gold smuggling in India?**

1. Price arbitrage between domestic and international market.
2. Import of raw materials.
3. Limited recycling.

Select the correct answer using the codes given below:

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer: D

Indigenous availability of raw material plays a crucial role in the growth of any industry; the Indian gold jewellery industry is almost completely dependent on imported raw materials. Almost 90% of requirement are fulfilled by imports. Hence statement 2 is correct.

Limited recycling and inefficient mining of gold are the main reasons for low domestic supply of gold. Less than 10% of total above ground stock in India is used for recycling and goes into domestic supply. Hence statement 3 is correct.

In addition, there lies a significant price arbitrage between domestic and international market that provides strong financial incentives for smugglers to earn handsome profit. Hence statement 1 is correct.

**Q3. How many of the following factors can be considered the reasons for the spread of Left Wing Extremism in India?**

1. The failure of land reforms.
2. Political deprivation.
3. Lack of title to public land cultivated.
4. Disruption of traditional occupations.
5. Displacement of people.

Select the correct answer using the codes given below:

- A. 1, 2 and 3 only
- B. 2, 3 and 4 only
- C. 1, 3 and 5 only
- D. 1, 2, 3, 4 and 5

Answer: D

- Causes of left-wing extremism in India

- The failure of land reforms especially land redistribution after independence.
- Socio-economic inequities, unemployment, despair about the future.
- Dishonest and self-serving dominant groups
- Political deprivation leading to hopelessness or a sense of powerlessness.
- Lack of title to public land cultivated by the landless poor.
- Governance deficit in the remote parts of Red Corridor regions.
- Lack of food security- corruption in the Public Distribution System (which are often non-functional).
- Disruption of traditional occupations and lack of alternative work opportunities.
- Displacement of people: Eviction from lands traditionally used by tribals.

**Q4. Consider the following statements with regard to Exercise Orion:**

1. It the largest ever multinational exercise being carried out by the French defence forces.
2. This would be the first overseas exercise for the IAF's Rafale aircraft.

Which of the above-given statements is/are correct?

Select the correct answer using the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Orion is reportedly the largest ever multinational exercise being carried out by the French defence forces which have involved their Army, Navy and Air Force along with their allies the US and the UK. Hence statement 1 is correct.

An Indian Air Force (IAF) contingent will participate in Exercise Orion at Mont-de-Marsan. This would be the first overseas exercise for the IAF's Rafale aircraft. Hence statement 2 is correct.

**Q5. Consider the following statements with regard to Combined Commanders' Conference 2023:**

1. It is a biannual event where the country's top military brass come together to brainstorm on military matters and national security.
2. The theme of the conference was 'Ready, Resurgent, Relevant'.

Which of the above-given statements is/are incorrect?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Combined Commanders' Conference is a biennial event where the country's top military brass come together to brainstorm on military matters and national security. Hence statement 1 is incorrect.

The three-day Combined Commanders' Conference began on March 30 with the theme of 'Ready, Resurgent, Relevant'. Hence statement 2 is correct.

Q6. Consider the following statements with regard to the Pralay Ballistic Missile:

1. It is an indigenous short-range ballistic surface-to-surface (SRBM) missile.
2. It has a range of 350 to 700 kilometres.

Which of the above-given statements is/are incorrect?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: B

It is an indigenous short-range ballistic surface-to-surface (SRBM) missile. The missile will be India's first tactical quasi-ballistic missile. Hence statement 1 is correct.

Pralay, which has a range of 150 to 500 kilometres, is propelled by a solid-propellant rocket motor and other novel technologies. Hence statement 2 is incorrect.

# STEP UP PROGRAMME 2023

## SUBJECT-WISE SECTIONAL TESTS

**Tests Coverage**

- 60 All India Level Tests in Total

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- 31 Sectional Tests covering old and new NCERTs + standard books

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- 5 PYQ Based Tests as UPSC repeats its questions many times (directly/indirectly)

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- 7 Current Affairs Tests covering 1 year of complete current affairs

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- 10 GS Full Length Tests

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- 7 CSAT Tests

**Other Unique Features**

- Appear in any test anytime and anywhere before UPSC CSE Prelims exam.
- Option to take the same test twice
- Covers all major standard books, newspapers, magazines & Govt. sources.
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- Compete nationally and find where you stand amongst the real competition.
- Tests prepared by pool of India's most adroit professionals
- Free counseling



- SCIENCE & TECHNOLOGY
- GEOGRAPHY
- ECONOMY
- ENVIRONMENT & ECOLOGY
- HISTORY
- POLITY

## 5. ENVIRONMENT & ECOLOGY

### 5.1 50 YEARS OF PROJECT TIGER, AND TIGER CENSUS IN INDIA

#### Context

- The 5th cycle of India's Tiger Census was released to mark 50 years of 'Project Tiger'.

#### Project Tiger

**About:** Project Tiger is a tiger conservation program launched in 1973 during Prime Minister Indira Gandhi's tenure.

**Aim:** The project aims at ensuring a viable population of the Bengal tiger in its natural habitats, protecting it from extinction.

**Genesis:** Back in the early 19th century, there were about 40,000 Royal Bengal Tigers in India. Within seven decades, its population dwindled to a mere 1800. In light of this, Project Tiger was launched as a major wildlife conservation project in India. It was launched from the Jim Corbett National Park of Uttarakhand.

**Funding:** The initiative is funded by the Union Govt. of India.

**Administration:** It is administrated under the Ministry of Environment, Forests, and Climate Change.

**Supervising Agency:** National Tiger Conservation Authority (NTCA) is the immediate supervising agency.

**'Core-buffer' strategy:**

#### Core

- No human activity is allowed inside the core area, including tourism. Even everyday tasks such as grazing and wood collection are banned. It has the legal status of National Park or Wildlife Sanctuary.

#### Buffer

- It is subjected to 'conservation-oriented land use'. It allows for limited human interaction.

**Success of the project:**

- In 1973, 'Project Tiger' included nine tiger reserves spread over 18,278 sq km.
- The tiger census of 2018 put the number of tigers in the wild in India at 2,967.
- Today, there are 54 Tiger Reserves in India covering more than 75,000 sq km. [2.4% of the country's geographical area].
- Today, India harbours 75% of the global wild tiger population, which is increasing at an annual rate of 6%.
- India has the largest number of CAT-accredited tiger reserves in the world at 17.
- India achieved the target set in the 2010 St Petersburg Declaration of doubling tiger population by 2022 [four years in advance].
- The current population of tigers in the country stands at 3,167 as opposed to 1,411 in 2006.

#### Tiger Census in India

- The National Tiger Conservation Authority in collaboration with the State Forest Departments, and the Wildlife Institute of India conducts a National assessment for the "Status of Tigers, Co-predators, Prey and their Habitat" once in every four years.
- The first assessment based on this scientific methodology was done in 2006 and subsequently in 2010, 2014 and 2018. In 2006, the tiger population was estimated at 1,411.
- In tiger status assessment of 2018-19, the overall tiger population in India was estimated at 2,967.

### Findings of the recent fifth cycle of India's Tiger Census

- In the recent fifth cycle of India's Tiger Census India's Tiger Population has jumped by 200 and stood at **3,167 in 2022**.
- The tiger population in Shivalik Hills & Gangetic Plains landscape has recorded a substantial increase.
- There has been an expansion of the tiger population in new areas like Uttar Pradesh and Himachal Pradesh.
- Tigers have occupied new areas in Madhya Pradesh and Maharashtra.
- Tiger population has become extinct in areas like Sri Venkateswara National Park, Tiger Reserves like Kawal, Satkosia, and Sahyadri.
- The report flags a **decline in tiger numbers in the Western Ghats**.

State	Number of tigers
Madhya Pradesh	526
Karnataka	524
Uttarakhand	442
Maharashtra	312
Tamil Nadu	264
Assam	190
Kerala	190
Uttar Pradesh	173
West Bengal	88
Rajasthan	69

**TIGER STATUS ASSESSMENT OF 2018-19.**

**Note:** The Tiger is classified as Endangered in the IUCN's Red List of Threatened Species. **CITES Appendix I.**

### Steps taken to Protect Tigers in India

- Constitution of the **National Tiger Conservation Authority (NTCA)** for strengthening tiger conservation.
- Constitution of a **multi-disciplinary Tiger and Other Endangered Species Crime Control Bureau** (Wildlife Crime Control Bureau) to effectively control illegal trade in wildlife.
- **Monsoon patrolling, funding to tiger reserve States, antipoaching squads, strengthening of communication and wireless facilities.**
- **Scientific methodology for estimating tigers** - including co-predators, prey animals and assessment of habitat status.
- **"Project Tiger"** and "Integrated Development of Wildlife Habitats".
- Bilateral understanding with Nepal on controlling trans-boundary illegal trade in wildlife and conservation.
- Protocol with Bangladesh for conservation of the Royal Bengal Tiger of the Sunderban.
- India is the founder member of the **Global Tiger Forum of Tiger Range Countries**.
- Creation of **Special Tiger Protection Force (STPF)**.
- An **online tiger crime database**, in collaboration with TRAFFIC-INDIA.
- **'Monitoring system for Tigers' Intensive Protection and Ecological Status (M-STrIPES)** for effective field patrolling and monitoring.
- Creation of a **national repository of camera trap photo IDs** of individual tigers.
- Approval for use of CAMPA funds towards village relocation from core areas.
- **Translocation of tigers** from high to low-density reserves within States.
- Collaboration with National Remote Sensing Agency (NRSA) towards evolving an **alert system in tiger reserves prone to natural disasters**.
- An online tiger/wildlife crime tracking / reporting system in tiger reserves.
- Security audit of the tiger reserves.
- Monitoring of tiger-rich areas outside **tiger reserves for CA|TS certification**.

*Despite all these efforts, threats such as **habitat loss, poaching, and human-wildlife conflict**, necessitates increased conservation efforts.*

## Way Ahead

- Instead of primarily reporting and focussing on tiger numbers, we should also look at **habitat quality and integrity of the ecosystem functions to truly evaluate success.**
- The **focus should be on ecosystems** rather than be restricted to a single species, backed by open science and participatory conservation.
- Incentivize farmers to adopt agroforestry, increasing vigilance along corridors and **taking power lines underground along vital corridors.**
- Certain protected areas in India have been denotified to accommodate development projects. This should be strictly stopped.
- India needs to **boost wildlife tourism** to achieve a win-win for both local communities and conservation.
- The **conviction rate of wildlife crime needs to go up drastically**, which is currently at 5%.
- **Need to vacate vast tracks of forest lands** under Forest Rights Act encroachments.
- We have 3,00,000 sqkilometers of forest tiger area and tigers are currently found in 90,000 sqkilometers. This entire forest area doesn't **have a prey base**. It's not only about protecting the tiger but also **protecting its food source.**
- Forest guards, need to be empowered with the **latest technology, better training, and manpower**, to tackle poaching.
- Frontline Forest Staff need to be - well-equipped or trained in intelligence and other policing skills for their task.

READ MORE: QR CODE: <https://www.iasgyan.in/daily-current-affairs/tiger-reserves-in-india>

## PRACTICE QUESTION

*Enlist the steps taken by the Government of India to conserve tigers in India. Despite the success of Project Tiger, several threats necessitate increased conservation efforts. Suggest measures to further strengthen tiger conservation efforts in India.*

## 5.2 UN 2023 WATER CONFERENCE

### Context

- The UN 2023 Water Conference took place at UN Headquarters in New York.



**About**  
The UN 2023 Water Conference was the first such meeting on water after 46 years. The last UN Water Conference, was held in 1977.

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**Timing**  
It marks the halfway point through the International Decade for Action "Water for Sustainable Development", adopted by the UN General Assembly on World Water Day - 22 March 2018 - to help put a greater focus on water.

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**Aim**  
Officially titled the "The United Nations Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action 'Water for Sustainable Development', (2018-2028)," the Conference aims to raise awareness of the global water crisis and decide on action to achieve internationally agreed water-related goals.

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**Host**  
It was co-hosted by the Government of Tajikistan and the Kingdom of the Netherlands.

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**Themes**  
The Conference had five themes that support the SDG 6 Global Acceleration Framework

1. Water for Health: Access to 'WASH' (Global Water, Sanitation, & Hygiene) including the Human Rights to Safe Drinking Water and Sanitation.
2. Water for Sustainable Development: Valuing water, the water-energy-food nexus and sustainable economic and urban development.
3. Water for Climate, Resilience and Environment: Source to sea, biodiversity, climate, resilience and disaster risk reduction.
4. Water for Cooperation: Transboundary and international water cooperation, cross-sectoral cooperation and water across the 2030 Agenda.
5. Water Action Decade: Accelerating the implementation of the objectives of the Decade for Action, including through the UN Secretary-General's Action Plan.

**Key commitments**

\$50-billion commitment from India to improve rural drinking water services under the Jal Jeevan Mission.

An effort called 'Making Rights Real' offered to help marginalised communities and women understand how to exercise their rights.

'Water for Women Fund' offered mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women.

## Need of the Conference

- Natural resources crises, including water and food, come within the top 10 biggest risks facing humanity in the coming decade, in the World Economic Forum's Global Risks Report 2023.



- The World Meteorological Organization estimates that 3.6 billion people struggle to get enough water to meet their needs for at least one month every year, and it forecasts that 5 billion people – more than half of humanity – will be facing the same plight by 2050.
- As we continue to **over-deplete, mismanage and abuse this vital resource**, water is becoming more scarce, **more polluted and contested at an unprecedented rate and scale**. And as global warming continues to take effect, ordinary weather is becoming a thing of the past, exacerbating our water crisis.

## Closing Remarks

- We need to rethink our approach to how we can best allocate and value water, and that's what this Conference is all about.
- We need some clear thinking about –
  - How to improve the governance of water supplies to ensure everyone has access to water to drink and wash?
  - How can we ensure our regulation of distribution is effective, fair, just and has democratic oversight?
  - How can we share the cost of preventing disasters?
- This Conference provided a roadmap for countries, sectors and river basins.
- It **sought better outcomes for all**, on all water-related challenges, in order to accelerate the delivery of the UN SDGs.
- The Water Action Agenda aims to manifest the political ambition to address global water challenges and fundamentally change the way we understand, value and manage water.
- The Conference is a way to gather the commitments of all stakeholders on Agenda 2030, and SDG 6 in particular- to “Ensure availability and sustainable management of water and sanitation for all”.

## PRACTICE QUESTION

The Water Action Agenda aims to manifest the political ambition to address global water challenges and fundamentally change the way we understand, value, and manage water. Analyse.

## 5.3 COASTAL AQUACULTURE AUTHORITY (AMENDMENT) BILL, 2023

### Context

- The Government introduced the Coastal Aquaculture Authority (Amendment) Bill, 2023, through its Union Minister of Fisheries, Animal Husbandry, and Dairying.

## Background: Coastal Aquaculture Authority Act of 2005

<b>About:</b>	<ul style="list-style-type: none"> <li>• The Coastal Aquaculture Authority Act came into force on 2005.</li> <li>• It is an Act that deals with the sustainable development of aquaculture activities in India.</li> <li>• The government is empowered to make guidelines for the implementation of functions provided to the Authority.</li> <li>• Coastal Aquaculture Authority is established for the purpose of enforcement of the Act.</li> <li>• The Authority implements the provisions provided in the Act, under the control of the Central Government of India.</li> </ul>
<b>Objectives:</b>	<ul style="list-style-type: none"> <li>• To regulate the aquaculture activities in the country.</li> <li>• To control the coastal environment destruction.</li> <li>• To produce more protein-rich food for the consumption of the increasing population.</li> <li>• To provide a livelihood to humans in commercial aquaculture activities.</li> <li>• To increase the existing species of the aquatic animals and protecting the coastal environment.</li> <li>• To utilize the aquatic and coastal land in a sustainable way of ensuring enough resources for our future generations.</li> </ul>
<b>Members</b>	<p>The Act provides that there shall be the following ten members in the Aquaculture Authority:</p> <ol style="list-style-type: none"> <li>1. Chairperson of the Authority, who is the Judge of the High Court;</li> <li>2. A member who is an expert in the field of the coastal aquaculture;</li> <li>3. A member who is an expert in the field of coastal ecology. Such member is to be nominated by the <u>Department of Ocean Development (DOD)</u> of the Central Government;</li> <li>4. A representative of the Ministry of Agriculture of the Central Government;</li> <li>5. A representative of the Ministry of Commerce of the Central Government;</li> <li>6. Four representatives of the coastal states on the rotation basis. The coastal states of India are Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, and West Bengal. Two coastal union territories are Daman &amp; Diu and Puducherry.</li> <li>7. A member secretary.</li> </ol>
<b>Reappointment</b>	<ul style="list-style-type: none"> <li>• According to <u>Section 6 of the Act</u>, any member of the Authority can be re-appointed for the post for a maximum of two consecutive years and not more than that.</li> </ul>
<b>Term</b>	<ul style="list-style-type: none"> <li>• The term of the members and other officials, if appointed, of the Authority is to be three years according to <u>Section 4 (4) of the Act</u>.</li> </ul>

## Provisions of Coastal Aquaculture Authority (Amendment) Bill, 2023

<b>Amend Coastal Aquaculture Authority Act, 2005</b>	<ul style="list-style-type: none"> <li>The Bill, seeks to amend certain provisions of the <b>Coastal Aquaculture Authority Act, 2005</b>.</li> </ul>
<b>Decriminalise Offences</b>	<ul style="list-style-type: none"> <li>It aims to <b>decriminalise offences under it for “promoting ease of doing business”</b> and fine-tuning the “operational procedures of Coastal Aquaculture Authority”.</li> </ul>
<b>Clarification on regulation</b>	<ul style="list-style-type: none"> <li>The Bill seeks to clarify that “coastal aquaculture and activities connected therewith” shall continue to be regulated by “the Coastal Aquaculture Authority Act and no other Acts.</li> <li><b>Note:</b> Under the 2005 Act, “coastal aquaculture” means culturing or cultivating, under controlled conditions in ponds, pens, enclosures, or otherwise, in coastal areas, of shrimp, prawn, fish, or any other aquatic life in saline or brackish water; but does not include freshwater aquaculture.</li> </ul>
<b>Broaden the definition of “Coastal Aquaculture”</b>	<ul style="list-style-type: none"> <li>The 2023 Bill <b>seeks to broaden the definition of “coastal aquaculture” or “coastal aquaculture activity” to mean</b> <ul style="list-style-type: none"> <li>“rearing and cultivation of any life stages of fish, including crustacean, mollusc, finfish, seaweed or any other aquatic life under controlled conditions, either indoor or outdoor, in cement cisterns, ponds, pens, cages, rafts, enclosures or otherwise in saline or brackish water in coastal areas, including activities such as production of brood stock, seed, grow out, but does not include fresh water aquaculture.”</li> </ul> </li> </ul>
<b>Promote environment-friendly coastal aquaculture</b>	<ul style="list-style-type: none"> <li>It aims to <b>promote newer forms of environment-friendly coastal aquaculture</b> such as “cage culture, seaweed culture, bi-valve culture, marine ornamental fish culture and pearl oyster culture”.</li> <li>These have the <b>potential for creating employment opportunities</b> on a large scale for coastal fisher communities and especially fisherwomen.</li> </ul>
<b>Produce genetically improved and disease-free broodstocks and seeds</b>	<ul style="list-style-type: none"> <li>It aims to encourage the establishment of facilities in areas having <b>direct access to seawater to produce genetically improved and disease-free brood stocks</b> and seeds for use in coastal aquaculture.</li> </ul>
<b>Prevent the use of antibiotics</b>	<ul style="list-style-type: none"> <li>The Bill <b>seeks to prevent the use of antibiotics</b> and “pharmacologically active substances”, which are harmful to human health in coastal aquaculture.</li> </ul>
<b>Provisions for “biosecurity”</b>	<ul style="list-style-type: none"> <li>The Bill <b>includes new provisions for “biosecurity”</b>, which refers to measures and strategies for analysing, managing, and preventing the risk of introducing or spreading harmful organisms like viruses and bacteria within the coastal aquaculture unit, which could lead to infectious diseases.</li> </ul>
<b>Introduction of a “Brood Stock Multiplication Centre”</b>	<ul style="list-style-type: none"> <li>It provides for the introduction of a <b>“Brood Stock Multiplication Centre”</b> which receives “post-larvae or juvenile which are specific pathogen free” or tolerant or resistant to such pathogens or other post-larvae or juveniles from a “Nucleus Breeding Centre”, to be reared under strict biosecurity and disease surveillance.</li> <li>Many of these biosecurity measures also find a mention in the 2015</li> </ul>



	<p><b><u>“Guidelines for Regulating Establishment and Operation of SPF Shrimp Broodstock Multiplication Centres”</u></b>, published by the National Fisheries Development Board, which is part of the Department of Animal Husbandry, Dairying, and Fisheries.</p>
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Formed in 1991, the Department of Animal Husbandry, Dairying, and Fisheries (DAHDF) was earlier responsible for overseeing matters related to animal husbandry, dairy, and fisheries. It advised states and UTs on the formulation of policies and programmes. However, in 2019, the Department of Animal Husbandry and Dairying was subsumed under the newly created Ministry of Fisheries, Animal Husbandry & Dairying.

### What are the penalties and punishment under the 2005 Act?

- Section 13 of the 2005 Act states that except for the manner provided under it, “no person shall carry on, coastal aquaculture in coastal area which lies within the Coastal Regulation Zone.
- Punishment: **imprisonment of up to 3 years or a maximum fine of Rs 1 lakh or both.**
- However, no court could take cognizance of an offence under section 14 without a “written complaint filed by an officer of the Authority authorized in this behalf by it.

### Changes: 2023 Bill seeks to bring

#### Adjudicating Officer

- The 2023 Bill seeks to allow the Centre to authorize an officer not below the rank of government Under Secretary to function as an adjudicating officer imposing penalties under the Act.

#### Appellate Authority

- Besides this, the Centre can authorize any officer of the Authority or the State Government or the Central Government, not below the rank of Deputy Secretary, to function as the Appellate Authority.

#### Powers of Appellate Authority

- Moreover, the **adjudicating officer or the Appellate Authority shall have the same powers as are vested in a civil court under the CPC, 1908** while trying a suit.
- These include summoning and enforcing the attendance of witnesses; requiring the discovery and production of documents; requisitioning any public record or document or copy of such record or document from any office receiving evidence on affidavits; and issuing commissions for the examination of witnesses or documents.

#### A systematic method for punishments and penalties

- Under Section 14, the Bill also **seeks to bring about a systematic method for punishments and penalties under the Act.**
- It says that where any person carries on coastal aquaculture in contravention of any of the provisions of this Act, an officer authorised under section 13A **can suspend or stop the activity for a prescribed time or impose penalties as per the Table given in the Bill.**
- The officer **can even order the removal or demolition of any structure or the destruction of any standing crop.**
- The officer may also suspend or cancel the registration of the offender.

#### Penalties defined

- If the offence pertains to “Hatchery, Brood Stock Multiplication Centre, Nucleus Breeding Centre or such other coastal aquaculture unit”, the penalties range for non-registered people varies **from Rs 50,000 to Rs 1 lakh for a first-time offence and third time & its subsequent offenses respectively.**
- For those who have registered and obtained a certificate, the **penalty varies from Rs 25,000 to Rs 1 lakh for the same offence.**

## 5.4 PROJECT ELEPHANT

### Context

- President Droupadi Murmu took part in Gaj Utsav to mark **30 years of Project Elephant**.
- GajUtsav is a platform to collectively pledge our commitment to the conservation of this magnificent species.

### Indian Elephant

#### About

- The **Indian elephant** is one of three extant recognized subspecies of the Asian elephant and is native to mainland Asia.

#### Conservation status

- **Endangered** on the IUCN Red List. **Schedule I** of the Indian Wildlife (Protection) Act, 1972 and
- **Appendix I** of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES).

#### Population

- The wild population has **declined by at least 50%** since the 1930s to 1940s, i.e. three elephant generations.

#### Distribution

- The Indian elephant is native to mainland Asia: India, Nepal, Bangladesh, Bhutan, Myanmar, Thailand, Malay Peninsula, Laos, China, Cambodia, and Vietnam. It is regionally extinct in Pakistan.
- In India, the Indian elephant *Elephas maximus* occurs in the **central and southern Western Ghats, North-east India, eastern India and northern India and in some parts of southern peninsular India**. It occurs in **16 states** of the country.

#### Habitat

- It inhabits grasslands, dry deciduous, moist deciduous, evergreen and semi-evergreen forests.

#### Threats

- Habitat loss, degradation, and fragmentation.

### Steps Taken by India to Protect Elephants

#### Wildlife (Protection) Act, 1972

- Wildlife (Protection) Act, 1972 accords **highest legal protection to elephants** regardless of whether they are in the wild or in human care.

#### Forest (Conservation) Act, 1980

- The Forest (Conservation) Act, 1980, protects elephant habitats from loss and degradation.

#### Elephant Corridors

- **101 elephant corridors in the country** have been documented by the Wildlife Trust of India in elephant range states.

#### National Heritage Animal

- The elephant has been declared as the **National Heritage Animal by The Government of India in 2010**.

#### MIKE program

- **MIKE program was started in South Asia and in 2003** after the conference of parties a resolution of CITES. It **tracks information related to illegal elephant killings across Asia and Africa** to monitor the effectiveness of conservation efforts.

#### Hathi Mere Sathi

- In 2011, Ministry of Environment and Forests in partnership with Wildlife Trust of India (WTI) launched a campaign called **Hathi Mere Sathi**. The campaign aims to improve the conservation, protection and welfare of elephants in India.

#### Mascot Gaju

- The campaign **Mascot Gaju** focuses on various groups which include local people near elephant habitats, youth, policymakers and others. The scheme envisions to set up elephant centres all over the country in the elephant landscapes.

#### Measures taken to prevent Elephant -Train Collisions:

- (ii) Provision of signage board (iii) Sensitization of Train Crew and Station Masters on a regular basis, (iv) Need based clearance of vegetation on the sides of the track within railway land (v) Construction of underpasses and ramps for the movement of elephants at identified locations and (vi) Provision of fencing at isolated locations.

## Project Elephant

About	<ul style="list-style-type: none"> <li>Project Elephant was launched by the Government of India <u>in the year 1992</u> as a Centrally Sponsored Scheme.</li> </ul>
Ministry	<ul style="list-style-type: none"> <li>Under this project, The Ministry of Environment, Forest and Climate Change provides financial and technical assistance to the states with major elephant population in the country.</li> </ul>
Aim	<ul style="list-style-type: none"> <li>To provide financial and technical support to wildlife management efforts by states for their free-ranging populations of wild Asian Elephants.</li> <li>Ensure the long-term survival of the population of elephants in their natural habitats by protecting them, their habitats and migration corridors.</li> </ul>
Objectives	<ul style="list-style-type: none"> <li>To protect elephants, their habitat, and corridors.</li> <li>To address issues of man-animal conflict.</li> <li>Welfare of captive elephants</li> <li>To promote not harming elephants for their tusks.</li> </ul> <p><i>Other goals of Project Elephant are supporting the <u>research of the ecology and management of elephants</u>, <u>creating awareness of conservation among local people</u>, <u>providing improved veterinary care for captive elephants</u>.</i></p>
Main Activities	<ul style="list-style-type: none"> <li>Restoration of already existing natural habitats and migratory paths for elephants.</li> <li>Development of scientific and planned management strategies for conservation of habitats and population of Wild Asiatic elephants in India.</li> <li>Promoting measures for the moderation of elephant-man conflict in vital habitats.</li> <li>Controlling human and domestic stock activities in critical elephant habitats.</li> <li>Measures for the protection of Wild elephants from poachers.</li> <li>Emphasis on Elephant research and management.</li> <li>Promotion of public education and awareness programs.</li> <li>Development of Veterinary doctors and elephant care facilities.</li> <li>Establishment of Elephant Rehabilitation/Rescue Centres.</li> </ul>
Execution	<ul style="list-style-type: none"> <li>The Project is being mainly executed in 16 States namely <b>Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Maharashtra, Meghalaya, Nagaland, Orissa, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, and West Bengal.</b></li> </ul>

### Is Project elephant successful?

#### Elephant population

- Facing threats from growing intrusion in their natural habitat, the government launched Project Elephant when the species population was only 15,000. The 2017 wildlife census indicated that India had just 29,964 elephants across 23 states.
- This is a **low number** considering over **60% of the Asian elephant population is supposed to be in India**.
- Karnataka has the highest number of elephants as per the Elephant Census 2017, with 6,049 elephants**, followed by Assam with 5,719 elephants and Kerala with 3,054 elephants.

#### Poaching

- Ivory poaching, which remains the foremost challenge for conservation of African elephants, is **under control in India**. This, however, was not the case in the 1970s and 1980s when we lost several tuskers to poaching fueled by the rapacious international illegal ivory market.

#### Elephant Reserves

- Elephant Reserves are the fundamental management unit under Project Elephant. As on date, there are **33 Elephant Reserves spread over 80,778 km<sup>2</sup> across India**.

#### Elephant Corridors

- To conserve elephants and minimize **human-elephant conflicts**, Project Elephant has been

carrying out the task of ground-validating known elephant corridors across India.

- Significantly, some critical elephant corridors like Chilla–Motichur in Uttarakhand, Tirunelli-Kudarakote corridor in Kerala and a few others have been successfully restored.

## Concerns

### Lack of Funds lack as well as Legislation

- With a **lack of funds as well as legislation to give legal protection**, Project Elephant has not been fully successful in establishing a proper conservation mechanism for elephants in India.

### Human Intrusion

- The **natural habitats of elephants are rampant with human intrusion and increasing wildlife-human conflict.**

### Illegal mining

- **Illegal mining is also rampant** in certain elephant corridors in the northeast as well as the central part of the country.

### Increase in Human-Elephant Conflict

- On average, about 500 humans and 100 elephants are killed every year across the country in such confrontations.

### Fragmentation of Elephant Habitats

- The fragmentation of elephant habitats and the construction of linear (railways and roads) and power infrastructure have led to many elephant deaths. The change in land use, particularly bringing erstwhile forested areas under agriculture, has aggravated the conflict.

## Way Ahead

### Grant Legal Safeguards

- The government **needs to address the issue and grant legal safeguards to Project Elephant.**

### Retain the Nature-Culture Ties

- The need of the hour is to **retain the nature-culture ties.** Our mythology, art, religion and heritage emphasise on the virtues of oneness with nature.

### National Elephant Conservation Authority

- A statutory body in line with the National Tiger Conservation Authority, named the

National Elephant Conservation Authority (NECA).

### Landscape-level collaborative management

- Landscape-level collaborative management of the elephant population.

### Reserve-Level Management Committee

- Setting up an operational reserve-level management committee with representatives from the state forest department, railways, district and block administration, local people's elected representatives, researchers and non-profits.

### Five-Year Management Plans

- Develop and implement five-year management plans for the reserve, with measurable key performance indicators.

### 50-Year Perspective Plan

- A 50-year perspective plan for each elephant landscape. Evaluation of the reserves by third parties after five years.

### Co-ordinated decision-making system

- Co-ordinated decision-making system could bring all elephant-bearing states on the same page with co-ordinated efforts for elephant conservation.

### A permanent Conflict Management Task

- A permanent Conflict Management Task Force for the review of existing conflict mitigation strategies and recommend site-specific strategies at the reserve level. Information regarding conflict incidences would be maintained and shared among all stakeholders.

### Secure corridor land

- Secure corridor land through purchase, voluntary relocation of people or securing the involvement of the local community.

### Designate Eco-Sensitive Zones

- Entire elephant ranges to be designated eco-sensitive zones under the Environment (Protection) Act, 1986.

### 'No-Go' and 'Slow-Go' Zones

- Creation of different 'no-go' and 'slow-go' zones in the elephant reserves for the regulation of developmental activities.

### Declare community reserves or conservation reserves

- Elephant corridors must be protected by declaring community reserves or conservation reserves under the Wildlife (Protection) Act, 1972 or community forest under the Forest Rights Act, 2006.

### Incentivise people

- Project Elephant should provide incentives to people for maintaining their land as corridors and they should be included in reserve management committees. Local villagers can be incentivised to provide information on elephant poaching.

### Employ elephant trackers

- Youths from Scheduled Tribes (ST) and other traditional forest dweller (OTFD) communities should be employed as elephant trackers for

keeping up-to-date information about elephant herds.

### Other

- **Set up reserve-level research stations** to improve elephant related research.
- Fill forest staff vacancies.
- Insure and incentivise forest staff.
- Set up a task force for the welfare of captive elephants.
- Project India as a global leader in Asian elephant conservation.
- The budget for Project Elephant must be increased. This would involve increased allocation for anti-poaching, habitat protection, new allocations for corridor securement, elephant-related research and capacity building among others.

*We need to resurrect the above recommendations and **free it from the clutches of partisan politics**. Elephant survival and ecological security is linked to our very own!*

## 5.5 STATE ENERGY EFFICIENCY INDEX (SEEI)

### Context

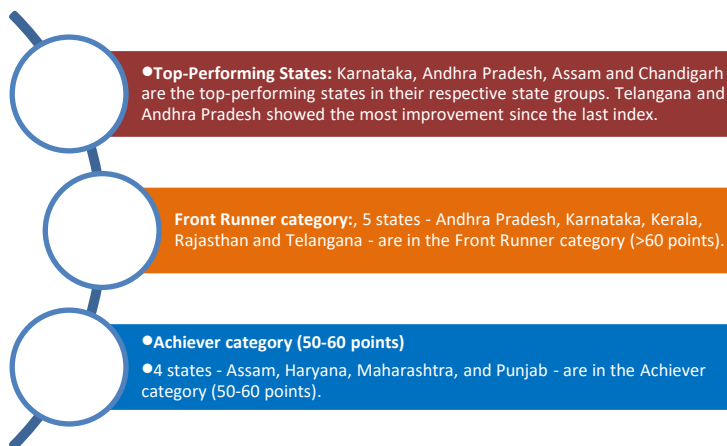
- Union Minister of Power and New & Renewable Energy, released the report of **State Energy Efficiency Index (SEEI) 2021-22**.

### SEEI Index

Developed by	• Bureau of Energy Efficiency in association with Alliance for an Energy-Efficient Economy (AEEE).
Aim	• By prioritizing energy efficiency, it <u>aims at driving decarbonisation efforts and achieve a more sustainable future</u> .
Broad objective	• It assesses, the <b>annual progress of states and UTs</b> in energy efficiency implementation.
Mandate	<ul style="list-style-type: none"> <li>• Improves data collection, enables cross-state collaboration, and develops energy efficiency program ideas.</li> <li>• Helps states identify areas for improvement, learn from best practices, and adopt an economy-wide approach to energy efficiency implementation.</li> <li>• Helps track progress on state goals for energy savings and reduction in emission intensity.</li> </ul>

### SEEI 2021-22 and State-wise performance

- SEEI 2021-22 has an updated framework of 50 indicators aligned with national priorities.
- Programme-specific indicators have been included this year to track outcomes and impacts of state-level energy efficiency initiatives.



**SEEI IMPORTANCE**

- As we transition to a **low-carbon economy**, it is crucial to ensure sustainable development with Energy Transition.
- Periodic tracking of states' energy efficiency progress and outcomes is essential to contribute effectively to the nation's climate commitments.
- India is committed to transitioning to a **net-zero economy by 2070**.
- SEEI tracks progress in managing states' and India's energy footprint, driving energy efficiency policies and programmes at the state and local level.

**BEE**

- **About:** Bureau of Energy Efficiency (BEE) was set up in 2002 under the provisions of the Energy Conservation Act, 2001.
- **Mission:** To assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001 with the primary objective of reducing the energy intensity of the Indian economy.

**5.6 BIODIVERSITY HERITAGE SITES**

**Context**

- Bengal has notified four more biodiversity heritage sites (BHS), taking the tally in the state to eight.
- With this, Bengal now has the highest number of biodiversity heritage parks in the country.

- Past pre-eminence of biological components represented by fossil beds and having significant cultural,
- Ethical or aesthetic values and
- Are important for the maintenance of cultural diversity,
- With or without a long history of human association with them.
- With the new additions, there are now **40 biodiversity heritage sites in India**.

**What are Biodiversity Heritage Sites?**

- Biodiversity Heritage Sites" (BHS) are well-defined areas that are unique, ecologically fragile ecosystems - terrestrial, coastal and inland waters and, marine having rich biodiversity comprising of any one or more of the following components:
  - Richness of wild as well as domesticated species or intra-specific categories,
  - High endemism,
  - Presence of rare and threatened species,
  - Keystone species,
  - Species of evolutionary significance,
  - Wild ancestors of domestic/ cultivated species or their varieties,

**Section 37 of the Biological Diversity Act**

- As per this section, the State Governments are empowered to notify in the official gazette, in consultation with 'local bodies', areas of biodiversity importance as Biodiversity Heritage Sites.
- The State Government in consultation with the Central Government may frame rules for the management and conservation of BHS.

**Criteria for Identification of BHS**

Areas having any of the following characteristics may qualify for inclusion as BHS:

- Areas that contain a mosaic of natural, semi-natural, and manmade habitats, which together contain a significant diversity of life forms.
- Areas that contain significant domesticated biodiversity component and/or representative agro-ecosystems with on-going agricultural practices that sustain this diversity.
- Areas that are significant from a biodiversity point of view as also important Cultural spaces such as sacred groves/trees and sites, or other large community conserved areas.
- Areas including very small ones that offer refuge or corridors for threatened and endemic fauna and flora, such as community conserved areas or urban greensand wetlands.
- Areas that provide habitats, aquatic or terrestrial, for seasonal migrant species for feeding and breeding.
- Areas that are maintained as preservation plots by the research wing of Forest department.
- Medicinal Plant Conservation Areas.

### Biodiversity Heritage Sites in India

Nallur Tamarind Grove	Maharashtra	Bambarde Myristica Swamps	Karnataka
Hogrekan	Maharashtra	Ganeshkhind Garden	Karnataka
University of Agricultural Sciences, GKVK Campus, Bengaluru	Maharashtra	Landorkhori	Karnataka
Ambaraguda	Maharashtra	SchisturaHiranyakeshi	Karnataka
Glory of Allapalli	West Bengal	Baneswar Shiva Dighi	Maharashtra
Tonglu BHS under the Darjeeling Forest Division	Himachal Pradesh	Sacred Grove at Sural Bhatari Monastery	West Bengal
Dhotrey BHS under the Darjeeling Forest Division	Himachal Pradesh	High Altitude Meadow @ HUDAN BHATORI	West Bengal
Dialong Village	Himachal Pradesh	Birch-pine Forest Patch @ Nain Gahar	Manipur
Ameenpur Lake	Tripura	Baramura Waterfall	Telangana
Majuli	Tripura	Unakoti	Assam
Ghariyal Rehabilitation Centre, Lucknow	Tripura	Silachari Caves	Uttar Pradesh
Chilkigarh Kanak Durga	Tripura	Debbari or Chabimura	West Bengal
Khlaw Kur SyiemKmieIng	Tripura	Betlingshib& its surroundings	Meghalaya
Mandasaru	Madhya Pradesh	Amarkantak	Odisha
Purvatali Rai	Assam	Hajong Tortoise Lake	Goa
Naro Hills	Assam	Borjuli Wild Rice Site	Madhya Pradesh
Patalkot	Tamil Nadu	Arittappatti Biodiversity Heritage Site	Madhya Pradesh
Asramam, Kollam	Odisha	Mahendragiri Hill Biodiversity Heritage Site	Kerala

## Four New Biodiversity Heritage Sites Declared in Bengal

- The four new sites are
  - Char Balidangain Nadia
  - State Horticulture Research and Development Station campus in Deypara, Nadia
  - NamthingPokhar in Darjeeling and the
  - Amkhoi Fossil Park in Birbhum.
- Char Balidanga comprises two islands on the Hooghly with tropical riverine vegetation of tall grasses and swampy flat lands. It is the **habitat of nearly 100 species of birds and many endangered animals**.
- NamthingPokhari, a Himalayan natural wetland covering 11.91 acres in the

Kurseong block. NamthingPokhari is the home to the Himalayan salamander.

- The Amkhoi Fossil Park near Ilambazar in Birbhum district is the **first wood fossil park in West Bengal**.
- The campus of the state Horticulture Research and Development Station in Deypara panchayat in Krishnagar **hosts indigenous germplasm of 50 varieties of mango, and seven varieties of guava and several others**.

**Note:** *The existing four BHS in Bengal include Chilkigarh Kanak Durga in Jhargram, Baneswar Shiv Dighi in Cooch Behar, Tonglu and Dhotrey in Darjeeling.*

## BIOLOGICAL DIVERSITY ACT, 2002

The Biological Diversity Act, 2002 is an Act enacted by the Parliament of India for the preservation of biological diversity in India, and provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. The Act was enacted to meet the obligations under the Convention on Biological Diversity (CBD), because India is a party of the convention.

The Act defines, Biological resources as "plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material.



## 5.7 BOTANICAL GARDEN

### Context

- The recent decision of the Tamil Nadu government to establish a large botanical garden is an important and welcome piece of news.
- The proposed **Chengalpattu Botanical Garden (CBG), at Kadambur village in Chengalpattu district**, is to spread across 138 hectares, and will be **India's largest botanical garden**.

### Botanical Garden

- A botanical garden is a garden with a documented collection of living plants for the purpose of scientific research, conservation, display, and education.

### Oldest Botanical Gardens

#### World

- The oldest Botanical Garden **-Orto Botanico di Padova in Italy, was founded in 1545**, and the most well-known, the **Royal Botanic**

**Gardens in Kew near London, was formally consolidated in 1840.**

#### India

- The oldest of the Indian academic gardens, the **Acharya Jagadish Chandra (AJC) Bose Indian Botanic Garden, in Howrah, Kolkata**, was established in 1787. The city is also the headquarters of the Botanical Survey of India, and thus the country's major research centre in botanical surveys and documentation.
- The exact number of botanical gardens in India is not known – the **published number ranges from between 10 to 35**.

### Importance of Botanical Gardens

- Plants are the structural foundations of our diverse ecological communities that feed us, provide us with nutrition and medicine, mitigate climate change, enrich our spirits, and secure us against an uncertain future. Yet, our knowledge of our vast botanical



heritage is extremely limited. Globally, botanical gardens are **important centers for plant exploration, discovery, and research, as well as biodiversity outreach.**

#### Taxonomic Studies:

- Botanical gardens provide valuable information on various plants Local flora, bonsai, rare plants etc.
- They act as “outdoor laboratories” for students and researchers.

#### Botanical Research:

- Botanical gardens supply wide range of plant species, seeds, flowers, fruits for botanical research.

#### Conservation:

- Botanical gardens **conserve and propagate rare species and genetic diversity.**

#### Education:

- They supply facilities for courses in local flora, horticulture, hybridization, plant propagation, etc.
- Their educational programs include workshops, and training sessions for teachers, students, naturalists etc.

#### Public Services

- They help the public in identifying the local and exotic plant species; provide instructions for home gardening’s, propagation of plants; supply plant resources; through sale or exchange.

#### Aesthetics and Recreation:

- They attract people who have made gardening their hobby.

#### Employment:

- They create job opportunities for a large number of young botanists.

## 5.8 G7 AGREEMENT ON CARBON-FREE ELECTRICITY PRODUCTION BY 2035

### **Context**

- Group of Seven (G7) countries committed to work towards ensuring carbon-free electricity production by 2035 and “accelerating” the phase-out of coal. During a two-day conference conducted in Sapporo, Japan in advance of the G7 summit scheduled for Hiroshima in May, an agreement was made.

emphasizing so-called clean coal, hydrogen and nuclear energy to help ensure its energy security.

### **Highlights of the Agreement**

#### Investments in Renewable Energy

- The countries pledged to step up investments in renewable energy, with the goal of producing 1,000 GW of solar energy and 150 GW of wind energy from offshore platforms by 2030.

#### Net-Zero Greenhouse Gas (GHG) Emissions by 2050

- Recognising the current global energy crisis and economic disruptions, the countries reaffirmed the commitment to accelerating the clean energy transition to net-zero greenhouse gas (GHG) emissions by 2050 at the latest.

#### Ending Fossil Fuel Subsidies

- The accord also reiterated that fossil fuel subsidies are incompatible with the objectives of the Paris Accord and emphasised the significance of gradually eliminating ineffective fossil fuel subsidies. By 2025, the participants agreed to end such subsidies.

#### Decarbonize Power Sector

- The leaders reiterated the need to urgently reduce carbon emissions and achieve a “predominantly decarbonized power sector” by 2035.

#### Acknowledging Japan’s Efforts

- Japan won endorsements from fellow G7 countries for its own national strategy

### **Significance of the Agreement**

- The G7 nations account for 40% of the world’s economic activity and a quarter of global carbon emissions.
- Their actions are critical, but so is **their support for less wealthy nations often suffering the worst effects of climate change while having the fewest resources for mitigating such impacts.**

## G7

<b>About</b>	The International Group of Seven (G7) is an Intergovernmental Political Forum formed in 1975. It meets annually to discuss issues such as global economic governance, international security, and energy policy.
<b>Member Countries</b>	It consists of <b>Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States</b> ; additionally, the <u>European Union (EU)</u> is a " <b>non-enumerated member</b> ". <b>Note:</b> <i>Russia was included in what became the G8 in 1997 but was suspended in 2014 after annexing Crimea from Ukraine.</i> Members are great powers in global affairs and maintain mutually close political, economic, diplomatic, and military relations.
<b>Secretariat</b>	The G7 is not based on a treaty and has <b>no permanent secretariat</b> or office. It has <b>no legal status</b> .
<b>Presidency</b>	It is organized through a presidency that <b>rotates annually among the member states</b> , with the presiding state setting the group's priorities and hosting and organizing its summit; Japan currently presides for 2023.
<b>Values and Economy</b>	It is officially organized around <u>shared values of pluralism and representative government</u> , with members making up the world's <b>largest IMF advanced economies and liberal democracies</b> .
<b>Global Share</b>	G7 members account for over half of global net wealth (at over \$200 trillion), 30 to 43 percent of global gross domestic product, and 10 percent of the world's population (770 million people).

## 5.9 STATE OF THE GLOBAL CLIMATE 2022

### Context

- The World Meteorological Organization (WMO) recently, released the report, entitled 'State of the Global Climate 2022'.

### Findings of the Report: Rise in Sea Level

- The world's sea level is rising at an unprecedented rate. This will have **potentially disastrous consequences for the weather, agriculture, the extant groundwater crisis, and social disparities**.

#### Measuring the rise in sea-level

##### • **Satellite Altimeters**

• Since the 1990s, scientists have been measuring sea-level rise using satellite altimeters. These instruments **send radar pulses to the sea surface and measure the time they take to get back and the change in their intensity**. The higher the sea level, the faster and stronger the return signal.

##### • **Global Mean Sea Level (GSML)**

• Researchers are able to determine GSML by collecting this data from different points on the earth and calculating the average. To calculate the rate of change in the Global Mean Sea Level (GSML) – i.e. how fast or slow the sea level is changing – we can calculate the difference in the GSML across a few years, usually a decade, and then divide the difference by the number of years. This provides an estimate of the rate of sea-level change.

### How much is the sea rising?

- The rate of global mean sea-level [GSML] rise has **doubled between the first decade of the satellite record and the last.**
- The sea level has been rising in the three decades for which satellite altimeter data is available (1993-2022).
- But **while the rate of sea-level rise was 2.27 mm/year in 1993-2002, it shot up to 4.62 mm/year in 2013-2022.**

### **Factors responsible for a rising GSML**

#### Ocean warming

- Ocean warming contributed 55%, and changes in the storage of land water contributed less than 10%.

#### Ice loss from glaciers and ice sheets

- Between 2005-2019, loss of glaciers and ice sheets contributed 36% to the GSML rise.
- The earth's ice cover, known as the cryosphere, has thinned. The cryosphere **includes the Arctic and Antarctic regions (called "sea ice"), glaciers, the ice sheets of Greenland and Antarctica (area of ice on land covering more than 50,000 km<sup>2</sup>), seasonal snow cover, and permafrost (mass of land that remains below 0° C for at least two straight years).**

#### Changes in land water storage

- Sea level rise (SLR) will cause shallow **unconfined coastal aquifers to rise.**
- Rising groundwater can emerge as surface flooding and impact buried infrastructure, **soil behavior, human health, and nearshore ecosystems.**

#### Increase in Co<sub>2</sub> and Green House Gases.

- As increasing concentrations of carbon dioxide and other greenhouse gases drive global warming, **90% of the 'extra' heat is stored in the oceans.** This leads to ocean warming.
- And as the ocean heats up, it undergoes thermal expansion, which in turn leads to a rise in the GSML.
- One measure of ocean warming is the **ocean heat content (OHC).** As per the report, **OHC measures in 2022 touched a new record.**

### **What problems will sea-level rise cause?**

#### Changes in Land Cover

- The accelerated pace **will cause changes in land cover, i.e. "what will be land and what will be sea",** in the future.
- As rising seas swallow more of the land cover, particularly in coastal areas, **coastal communities will face an "acute shortage of land for human use".**
- This land crunch, will mean that those who are better off will be able to cope better than marginalized groups, leading to an **increase in social disparities between people living in coastal areas.**

#### The chances of cyclones could increase

- Weather formations like cyclones are known to typically originate in the open seas. As the GSML continues to rise, along with a rise in ocean temperatures, the **chances of cyclones could increase, affecting coastal communities and leading to large economic liabilities for tropical countries like India and South Africa, which have high population densities.**

**Observation:** South Africa was affected by five cyclones in over two months in 2022, leading to the displacement of "hundreds of thousands of people".

#### Water crises in coastal areas

- As the GSML continues to rise, more seawater could seep into the ground, leading to the groundwater – which is usually freshwater – turning more and more saline.
- This in turn can exacerbate water crises in coastal areas as well as agriculture in adjacent regions.

#### Changes in the Coastal Ecosystem

- Coastal ecosystems could be “completely changed”.
- For example, in the Sunderbans delta in West Bengal, the world’s largest mangrove area, rising sea levels and coastal erosion, **due to loss of land and sediment from coastal areas**, has left more islands submerged under water, and that in turn has forced members of local communities to migrate.

#### Endanger socio-economic stability

- Since the lives of coastal communities, including their economic activities, are tied intricately with the coastal ecosystem, changes in the coastal ecosystem as a result of GSML rise – especially when it happens faster than rehabilitative policies and laws can catch up – will further endanger the socio-economic stability of these communities.

**Example:** A combination of these forces has increased child trafficking in the Sundarbans area has already been documented.

### Other issues highlighted by the Report

Consistent rise in global temperatures.

Record-breaking increases in the concentration of greenhouse gases as well as glacier loss.

Sustained drought-like conditions in East Africa.

Record rainfall in Pakistan.

Unprecedented heatwaves that struck Europe and China in 2022.

Droughts, floods and heatwaves affected communities on every continent and cost many billions of dollars.

Antarctic sea ice fell to its lowest extent on record and the melting of some European glaciers was, literally, off the charts.

### Closing remarks

- It is crucial that reports like the WMO’s ‘State of the Global Climate 2022’ continue to generate and accumulate data on climate change.
- It presses for global and local policy-level changes related to climate change.

## 5.10 WATERBODY CENSUS

### Context

- Recently, the first census of waterbodies was released by the Ministry of Jal Shakti.

### Definition of Water Body

- The census defines a waterbody as -  
“*all-natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (example industrial, pisciculture, domestic/drinking, recreation, religious, groundwater recharge etc)*”
- Waterbodies are usually of various types known by different names like tank, reservoirs, ponds and bundhies etc.
- A structure where water from **ice-melt, streams, springs, rain or drainage of water** from residential or other areas is accumulated or water is stored by diversion from a stream, Nala or river will also be treated as a waterbody.

### Census Enumeration

- 24,24,540 waterbodies have been enumerated in the country, out of which 97.1% (23,55,055) are in rural areas and only 2.9% (69,485) in urban areas. The census also collected data on the encroachment of waterbodies for the first time.

## Findings of the Census

### Total number of Water Bodies

- India has **24 lakh water bodies** like ponds, tanks and lakes.

### Waterbodies based on type

- As per the report:

59.5 per cent (14,42,993) of waterbodies are ponds,

Tanks (15.7 percent i.e. 3,81,805),

Reservoirs (12.1 per cent i.e. 2,92,280),

Water conservation schemes/percolation tanks/check dams (9.3% i.e. 2,26,217),

Lakes (0.9% i.e. 22,361) and

Others (2.5% i.e. 58,884).

- West Bengal tops the list of States with the most ponds and reservoirs: 47 lakh.
- West Bengal's **South 24 Parganas has been ranked as the top district having the highest (3.55 lakh) number of waterbodies across the country.**

### Encroached Water Bodies

- The census also collected data on the encroachment of waterbodies for the first time.
- 6% waterbodies out of all the enumerated waterbodies are reported to be encroached, out of which 95.4% are in rural areas and remaining 4.6% in urban areas.
- Out of all encroached waterbodies, 62.8% have less than 25% area under encroachment, whereas 11.8% waterbodies have more than 75% area under encroachment.

## 5.11 GROUNDWATER SENSORS

### Context

- The Jal Shakti Ministry is working on an ambitious plan to **deploy a vast network of groundwater sensors that will continuously relay information on groundwater levels as well as the degree of contamination down to the taluk level.**

### Current system

- Currently, such information is only measured a handful of times a year and communicated via reports of the Central Groundwater Board.
- The Central Groundwater Board currently relies on a network of about 26 thousand groundwater observation wells **that require technicians to manually measure the state of groundwater in a region.**

### New Initiative

- Under the new initiative, **around 16,000-17,000 digital water level recorders will be connected to piezometers in the wells.**

- Piezometers measure groundwater levels,** the recorders will transmit the information digitally.
- In the next three years, the CGWB aims to increase its network from the existing 26,000 to about 40,000.
- India will have about **67,000 digitally recordable units to monitor groundwater dynamics.**

### Role of Groundwater Sensors

- Establishing a network that will continuously measure groundwater quality, feed it into a centralized network such as that of the **National Water Informatics Centre (NWIC)** and available for monitoring would make groundwater visible much the same way as air quality.
- Except for information on water flow governed by international treaties, **most of this information will be publicly accessible."**

### Significance

- Groundwater forecasts can be provided to farmers that would be useful for sowing, and updated advisories that can influence groundwater extraction policies by States.
- Those regions and States that are known to have groundwater contamination, for instance, coastal salinity or excessive depletion, will be monitored more intensely for action by States.

### Latest Report on Groundwater

- In the latest Ground Water Resource Assessment-2022, the total annual groundwater recharge in the country has been assessed as 437.60 billion cubic metres (BCM).

- The annual extractable groundwater resource has been assessed as 398.08 bcm, with actual extraction of 239.16 bcm.
- The average stage of groundwater extraction for the country as a whole works out to be about 60.08%. Anything above 70% is considered "critical" though there are regions in Punjab, Haryana, Delhi and Rajasthan with groundwater blocks with over 100% extraction.
- 85% of rural India uses groundwater for drinking and domestic purposes.
- In cities with a population of over 10 lakhs, about 40% have seen water levels in monitored wells either stay stable or drop.

## 5.12 SHORT TOPICS

### Black Carbon

#### About

- Black carbon is a component of fine particulate matter ( $PM \leq 2.5 \mu m$ ).
- Black carbon is also one of the chief varieties of particle present in soot. Soot is a powder-like form of amorphous carbon.

#### Formation

- It is formed through the incomplete combustion of fossil fuels, biofuel, and biomass.

#### Sources

- Diesel engines for transportation and industrial use;
- Residential solid fuels such as wood and coal;
- Open forest and savanna burning, both natural and initiated by people for land clearing; and
- Industrial processes, usually from small boilers.

#### Atmospheric lifetime

- Black carbon stays in the atmosphere for only several days to weeks.
- Black carbon's warming effect on the climate is as much as 1,500 times more intense than that of carbon dioxide (CO<sub>2</sub>).

#### Impact on Environment

- BC is a climate forcing agent contributing to global warming.
- It warms the Earth by absorbing sunlight and heating the atmosphere and by reducing albedo when deposited on snow and ice (direct effects) and indirectly by interaction with clouds.

#### Impact on Health

- It one of the main types of particles in both anthropogenic and naturally occurring soot.
- Black carbon causes human morbidity and premature mortality.
- Black carbon is a known carcinogen and in the most serious cases, it can cause lung cancer, lung disease, heart disease and stroke.

#### Curbing Black Carbon

##### Household Energy

- Replace traditional cooking to clean burning modern fuel cookstoves.
- Replace traditional cooking and heating with clean-burning biomass stoves.
- Eliminate kerosene lamps.
- Replace lump coal with coal briquettes for cooking and heating.
- Replace wood stove and burners with pellet stoves and boilers.

##### Industrial Production

- Modernize traditional brick kilns to vertical shaft brick kilns.
- Modernize coke ovens to recovery ovens.

#### **Transport**

- Use diesel particular filters for road and off-road vehicles.
- Fast transition to Euro VI/6 vehicles and soot-free buses and trucks.
- Eliminate high-emitting diesel vehicles.

#### **Agriculture**

- Ban open-field burning of agricultural waste.

#### **Fossil Fuels**

- Capture and improve oil flaring and gas production.

#### **Waste Management**

- Ban open burning of municipal waste.

#### **Black Carbon vs Carbon Black**

- Carbon black is a commercially produced commodity that is used for a variety of different applications, including as a colorant in inks, pigments and foodstuffs or as a filler in tyres and other rubber items.
- Black carbon, on the other hand, is an undesirable by-product of the combustion process that has no beneficial properties or applications.

### **Prosopis chilensis**

- *Prosopis chilensis* is an alien invasive species found in Peru, Bolivia, eastern Argentina and central Chile, and grows on light soils in arid regions.
- It is very drought resistant. It is threatening to pulverize native vegetation across 21 islands in the Gulf of Mannar Biosphere Reserve.

**Note:** An invasive or alien species is an introduced species to an environment that becomes overpopulated and harms its new environment.

### **Human Composting**

#### **Context**

- Recently, New York became the sixth state in the US to legalise human composting as a burial option.

#### **What is Human Composting?**

- Also, known as natural organic reduction, human composting is essentially **the process**

**of transforming the human body into nutrient-rich soil.** It is an eco-friendly alternative to dispose of a corpse.

#### **Method**

1. The body is first **washed and dressed in a biodegradable grown.**
2. It's then **placed in a closed vessel,** usually measuring 8 feet by 4 feet, along with selected materials such as alfalfa, straw and sawdust.
3. Inside the container for the **next 30 days,** the body is left to decompose.
4. To speed up the decay, **oxygen is added to the vessel,** which results in the unfolding of a process called aerobic digestion, in which microbes start to consume organic matter.
5. Meanwhile, the temperature inside the container is kept around 130 degrees Fahrenheit or 55 degrees Celsius in order to kill off contagions.
6. By time the aerobic digestion is over, the body has been **transformed into a soil-like material,** containing nutrients, bones and some medical devices – these are taken out from the compost pile and recycled.
7. The contents of the vessel are then ground in a machine to help further break the bones into fragments.
8. Then, the material is occasionally **rotated for another 30 days.**
9. As the microbial activity comes to an end, the temperature inside the pile drops, marking the transformation from an active composite pile into the soil.
10. After this, the family of the deceased is given the soil, which weighs around 181 kg.

#### **Downsides of cremation and burial**

- With the global temperature soaring, methods like burials and cremations are increasingly being seen as contributors to carbon emissions.
- **Cremating one body emits an estimated 190 kg of carbon dioxide into the air,** which is the equivalent of driving 756 km in a car.
- Burial has its hazards too –an **indefinite use of land; embalming a corpse in toxic solutions, which could be harmful to the soil.**

- Burials and cremations are quite expensive and not only many can afford them.

#### Significance of Human Composting

- Human composting costs around \$5,500 including the laying-in ceremony and uses much less energy than cremation.
- The soil produced through this procedure can be used for gardening or can be spread in forest conservation areas.
- When human composting transforms the organic material of our bodies, **carbon is also sequestered in the soil created.** Rather than being released as carbon dioxide gas through exhaust during cremation, the **carbon matter contained in each body returns to the earth.**

## Miyawaki Method

### Context

- To tackle climate change and pollution, the Bombay Municipal Corporation has started creating a Miyawaki forest at Deonar village.

### Miyawaki Method

- An efficient technique for creating mini-forests quickly is Miyawaki Forest.
- This innovative technique, involves planting a forest in someone's backyard
- It is based on the methods of a Japanese forester and botanist named Akira Miyawaki.

The following steps are involved in the development of a Miyawaki:

1. The local plants are identified, and they are further divided into shrubs, sub trees, trees, and canopies.
2. The soil is assessed for quality, and biomass is combined to improve the quality of the soil.
3. After that, a mound is constructed; and three to five saplings are planted per square meter in very high density.
4. A heavy layer of mulch is then placed on the ground.

### Minimum needs for Miyawaki technique afforestation

- The Miyawaki afforestation technique only needs a very small area—at least 20 square feet.
- To minimise space and encourage dense plant development, seeds must be planted

relatively closer. This enables young trees to defend one another and stop sunlight from penetrating the forest floor, inhibiting the growth of parasitic plants.

- This approach results in vegetation that is 30 times denser and grows 10 times more quickly than usual.
- The Miyawaki approach requires such forests that can be maintained for a minimum of three years.

### Closing Remarks

- Miyawaki urban forests are intriguing, intricate ecosystems that are in harmony with the soil and climate of the present condition.
- They help lower temperatures in concrete heat islands, reduce air and noise pollution, attract local birds and insects, and create carbon sinks. With this technique, more than 2000 forests were successfully planted across the world.

## Amolops siju

- Researchers from the Zoological Survey of India (ZSI) have discovered a new species of frog.
- The Amolops siju is the first cave-dwelling cascade frog from the northeast.
- It has been named after Siju, a 4-km-long natural cave in Meghalaya's south Garo hills district.
- This is the second cave-dwelling species of frog recorded from India after Micrixalus spelunca in Tamil Nadu nine years ago.

## Carbon Border Tax

### Context

- The EU Parliament passed the Carbon Border Adjustment Mechanism Bill.
- The law will authorize the EU to charge Carbon Border Tax (CBT) on imports of steel, aluminum, fertilizer, electricity, cement, and hydrogen from January 2026.

### What is a Carbon Border Tax?

- A carbon border tax is a tax imposed on imported goods to equalize the cost of carbon emissions between domestic and foreign producers.



- A carbon border adjustment tax is a duty on imports based on the amount of carbon emissions resulting from the production of the product in question.

#### Aim of the Tax

- The tax aims to address the issue of carbon leakage, where companies move their emissions-intensive operations to countries with less stringent regulations, resulting in a net increase in emissions.

#### Implications of Carbon Border Tax

- As a cost on carbon, it discourages emissions.
- As a trade-related measure, it affects production and exports.
- If designed unilaterally, it tends to be seen as unfair by trading partners.

## City Nature Challenge

#### Context

- Over 30 Indian cities are set to participate in the City Nature Challenge.
- The Bombay Natural History Society, World Wide Fund for Nature-India, and The Naturalist School have partnered to lead the event in cities like Bengaluru, Mumbai, Hyderabad and Delhi.

#### Details

- City Nature Challenge is an app-based competition that records observations of nature.
- The city with the most observations recorded will be the winner.
- The event was first organized in the U.S. in 2016 by the Natural History Museum of Los Angeles County and San Francisco's California Academy of Sciences and has now become a global citizen-science phenomenon.

#### Working

- Participants can use the iNaturalist app (available for Android and Apple phones) to click and upload a photo of natural flora and fauna.
- The app uses Artificial Intelligence to suggest the species name.
- Community members will collaborate to confirm these suggestions.

- GPS coordinates for the observation are picked up automatically from the image data.
- Once an observation is confirmed, it becomes available to scientists and researchers who can use this data to research different plant and animal species or determine the biodiversity in a region.

#### Significance

- City Nature Challenge can become an effective and robust data-gathering tool for researchers to carry out long-term studies over large geographical areas especially focusing on urban areas.
- But even more than that, it is an exercise for citizens to use Nature in helping to reduce stress, calm anxiety and slow our breath, heart, and pace of life in today's concrete jungles.

#### Bombay Natural History Society (BNHS)

The Bombay Natural History Society (BNHS), founded on 15 September 1883, is one of the largest non-governmental organizations in India engaged in conservation and biodiversity research.

#### World Wide Fund for Nature

WWF India is a science-based organization that addresses issues such as the conservation of species and their habitats, climate change, water, and environmental education, among many others.

WWF was established in 1961 by a group of passionate and committed individuals who sought to secure the funding necessary to protect places and species that were threatened by human development.

## Mangrove Pitta Birds

#### Context

- In a first-ever census of mangrove pitta birds carried out in two coastal districts of Odisha, 179 such birds were sighted.



### Mangrove Pitta Birds

- **Family:** The mangrove pitta (*Pitta megarhyncha*) is a species of passerine bird in the family Pittidae.
- **Note:** *These pittas are monotypic species. A monotypic species is one that does not include subspecies or smaller, infraspecific taxa.*
- **Distribution:** The mangrove pitta is native to the countries of Bangladesh, India, Indonesia, Malaysia, Myanmar, Singapore, and Thailand.
- **Range within India:** Mangrove pitta birds are found in a few pockets of eastern India, including Odisha's Bhitarkanika and West Bengal's Sundarbans.
- **Physical Description:** Measuring 180 to 210 mm in length, the mangrove pitta is a colorful bird. It has a black head with brown crown, white throat, greenish upper parts, buff underparts and reddish vent area. Its call, is sometimes rendered as wieww-wieww.
- **Habitat and Food:** It is found in Mangrove and Nipa Palm Forests.
- **Threat:** It is threatened by habitat loss.
- **Diet:** Its diet consists of crustaceans, Mollusks and terrestrial insects.
- **Ecosystem:** The natural ecosystems and habitats of these mangrove species include, tropical and subtropical mangrove forests, tropical and subtropical wetlands, rivers, coastal marshlands, streams, creeks and estuaries.
- **Migration and movement patterns:** These mangrove pitta species are non-migratory resident birds.
- **IUCN Status:** Near Threatened.
- **CITES status:** 'Not Evaluated' for Mangrove Pitta.

## Eco-Sensitive Zones (ESZ)

### Context

- SC modified judgment on eco-sensitive zones around protected forests.

### Background

- The Supreme Court had given a judgement to have mandatory eco-sensitive zones (ESZ) of a minimum one kilometre around protected forests, national parks and wildlife sanctuaries across the country.
- The Centre and several States, including Kerala, had returned to the apex court seeking modification of the June 2022 judgment, saying the judicial direction affected hundreds of villages in the peripheries of forests.

### New Rules

- As per the new order, minimum one-kilometre criteria would not be applicable to the ESZs in respect of which a draft and final notification has been issued by the Ministry of Environment, Forest and Climate Change (MoEF& CC).

### SC Observations: Issues in the previous 1 km ruling and Rationale behind new modification

- SC Bench led by Justice B.R. Gavai reasoned that eco-sensitive zones cannot be uniform across the country and has to be 'protected area-specific'. The area to be declared as ESZ cannot be uniform and will be Protected Area specific. In some cases, it may be 10 kilometres on one side and 500 meters on the other side. In certain cases, it may not be possible to have a uniform minimum area by virtue of inter-state boundaries or a sea or a river beyond one side of the Protected Area.
- The Supreme Court said that the purpose of declaring eco-sensitive zones is not to hamper the day-to-day activities of the citizens.
- If the direction as issued is continued, it would certainly hamper the day-to-day activities of the citizens residing in ESZs.
- Man-animal conflict would only increase rather than abate.
- A villager who is desirous to reconstruct his house would not be permitted.

- If the government decides to construct schools, dispensaries, anganwadis, village stores, water tanks and other basic structures for the improvement of the life of the villagers, the same would not be permitted.
- State or the Central government would be **prevented from constructing roads.**
- It will be impossible for forest departments to **conduct eco-development activities around national parks and sanctuaries.**
- Centrally sponsored Scheme-Integrated Development of Wildlife Habitats, which includes assistance for eco-development activities, would come to a standstill.
- It would also affect certain projects of national and strategic importance such as **construction of national highways, railways, defense-related infrastructure, etc.**
- However, the court made it clear that “**mining within the national park and wildlife sanctuary and within an area of one kilometre from the boundary of such national park and wildlife sanctuary shall not be permissible.**”

**ESZ: QR CODE: <https://www.iasgyan.in/daily-current-affairs/eco-sensitive-zone-esz-50>**

### 5.13 SNIPPETS



#### MISSION ARIKOMBAN

- Arikomban, which got its name from its love for 'ari' (rice), and 'komban' means tusker, is a wild elephant that has damaged several houses and ration shops in Kerala in the past few years. The wild elephant prefers to eat rice, atta, and wheat.
- The Kerala Forest department has initiated 'Mission Arikomban', an operation to capture the rogue tusker.
- The plan is to capture it with tranquilizer shots and later shift it to an elephant training center.

### 5.14 1 MAINS QUESTION

**Q. Recently, India marked the 50th anniversary of "Project Tiger". How far do you think Project Tiger was successful? Throw light on the ongoing challenges in protecting tigers and suggest measures to overcome them.**

#### Introduction

- Celebrating five decades of tiger conservation, India recently marked the 50th anniversary of “Project Tiger”. Project Tiger was **launched in 1973** to protect Bengal Tigers from extinction. In 1900s, there were about 40,000 Royal Bengal Tigers in India. By 1970s, the population dwindled to a mere 1800. Thus, the much-needed project was launched in 1972, in Jim Corbett National Park, Uttarakhand under the leadership of Indira Gandhi.

#### Evaluation of Project Tiger based on findings of Tiger Census

- Notably, the project started in 1973 with just 9 tiger reserves covering 18,278 sq km in 9 states but today, there are 54 Tiger Reserves in India covering more than 75,000 sq km. [2.4% of the country's geographical area].
- At present, India harbours 75% of the global wild tiger population, which is increasing at an annual rate of 6% and it has the largest number of CAT-accredited tiger reserves in the world at 17. India achieved the target set in the 2010 St Petersburg Declaration of doubling tiger population by 2022 [four years in advance]. The current population of tigers in the country stands **at 3,167** as opposed to 1,411 in 2006. Thus, Project Tiger has been **clearly successful in increasing the population of tigers.**

### Issues and Challenges in Tiger Conservation

- Tiger death due to Man-Animal Conflicts.
- Lack of adequate protection outside Tiger Reserve.
- Loss of forest quality in terms of prey biomass.
- Insurgency/ law and order problems.
- Lack of wildlife corridors and connectivity.
- Poaching for trade: National Tiger Conservation Authority data shows that India lost 857 tigers between 2012 and 2020, while 193 of them died due to poaching.
- Shrinking habitat,
- Depletion of prey-based species,
- Growing human population and
- Deforestation.

### Measures to overcome the challenges

- **Habitat quality:** Instead of just focussing on tiger numbers, we should also look at **habitat quality and integrity of the ecosystem functions to truly evaluate success.**
- **Focus on Ecosystems:** The **focus should be on ecosystems** rather than be restricted to a single species, backed by participatory conservation.
- **Underground Power Lines, Agroforestry:** Incentivize farmers to adopt agroforestry, increasing vigilance along corridors and **taking power lines underground along vital corridors.**
- **Denotification of protected areas:** Done to accommodate development projects. This should be strictly stopped.
- **Boost Wildlife Tourism:** To achieve a win-win for both local communities and conservation.
- **Rate of conviction:** The **conviction rate of wildlife crime needs to go up drastically**, which is currently at 5%.
- **Vacate vast tracks of forest lands:** Under Forest Rights Act encroachments.
- **Improve prey base:** We have 3,00,000 sq kilometers of forest tiger area and tigers are currently found in 90,000 sq kilometers. This entire forest area doesn't **have a prey base.** It's not only about protecting the tiger but also **protecting its food source.**
- **Technology, better training, and manpower:** Forest guards, need to be empowered with

the **latest technology, better training, and manpower**, to tackle poaching.

- **Well-equipped Frontline Forest Staff:** Frontline Forest Staff need to be - well-equipped or trained in intelligence and other policing skills.

### Conclusion

- Project Tiger has been successful in bringing tigers back from the brink of extinction. Despite its success, threats such as habitat loss, poaching, and human-wildlife conflict, necessitate increased conservation efforts. The tiger populations in some reserves, such as Buxa Tiger Reserve in West Bengal, Satkosia and Similipal in Odisha, and Satpura in Madhya Pradesh, are very low. We need active management where tiger numbers are below or above the carrying capacity. Poaching in India has reduced significantly due to technology, **better monitoring, patrolling and protection systems.** But it is still the number one threat. **Improved monitoring and early warning systems are crucial** to reduce tiger-human conflicts.
- Overall, the success of Project Tiger highlights India's commitment to wildlife conservation and protecting its natural heritage. The country's conservation efforts have been instrumental in the recovery of the tiger population, which had been severely threatened due to poaching and habitat destruction. In conclusion, the 50th anniversary of Project Tiger is a momentous occasion for India, highlighting the country's successful conservation efforts and commitment to protecting its wildlife.
- The growth of the tiger population and expansion of protected reserves **demonstrate the effectiveness of Project Tiger and the importance of continued conservation efforts.** India's achievements in tiger conservation **serve as a model for other countries facing similar challenges and underscore the need for global collaboration to protect endangered species.**

## 6. SOCIAL ISSUES

### 6.1 STATE OF WORLD POPULATION REPORT

#### Context

- The annual **State of World Population report** by the **UN Population Fund (UNFPA)** has been released.
- Title:** 8 Billion Lives, Infinite Possibilities: The Case for Rights and Choices.

#### About the Report

- The State of World Population Report is **UNFPA's annual flagship publication**.
- Published yearly since 1978**, it shines a light on emerging issues in the field of sexual and reproductive health and rights, bringing them into the mainstream and exploring the challenges and opportunities they present for international development.

#### Highlights of the 2023 Report

##### India to Surpass China's Population

- India will become the most populous country in mid-2023, surpassing China's 142.5 crores by about 3 million.

*[Basis of estimates: Official country data + extrapolating birth, mortality, and international migration trends.]*

##### Doubling of Population

- If India's population continues to grow at the current pace it would double from the present value in the next 75 years.

##### Most populous countries in the world

*\*See the figure on the right side.*

##### Slowing down of Population Growth in both India and China

- Although India and China will account for more than one-third of the **estimated global population of 8.045 billion**, the population growth in both Asian giants has been slowing.
- The slowdown in growth is at a **much faster pace in China than in India**.

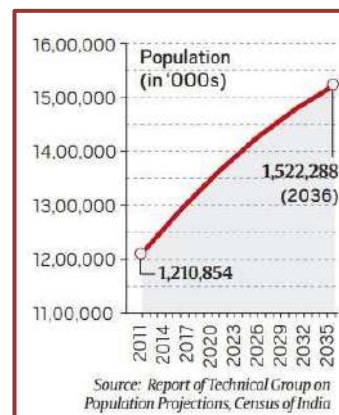
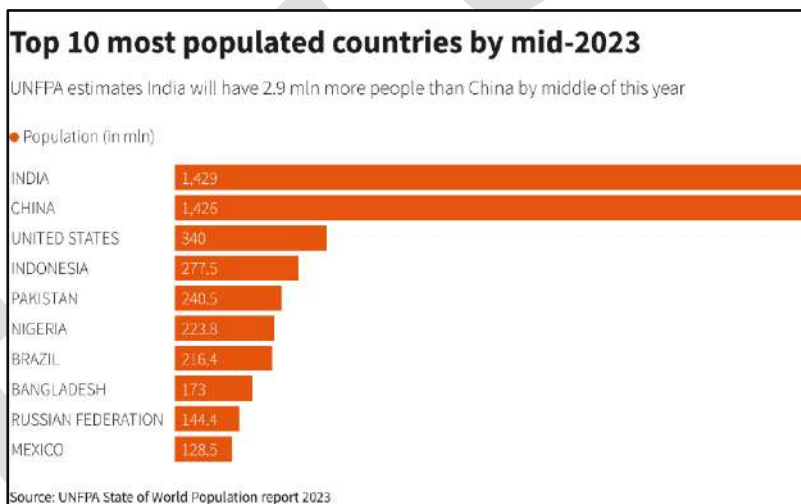
##### India's annual population growth: Trends

- India's annual population growth has **averaged 1.2% since 2011**, compared with 1.7% in the 10 years previously.

##### India's Working Population

- More than two-thirds of India's population (68 percent) **comprises people between the ages of 15 and 64**, which is considered the working population of a country. As per Census 2011, the **population of young people (10-24 years)** in India was 365 million, which the 2022 UN World Population Report projected **would increase to 379 million in 2023**.

##### Indian Fertility Rate



- Indian **fertility rate per woman is 2 in 2023**, and a majority of the population falls in the working-age bracket.

#### The proportion of young people in the population

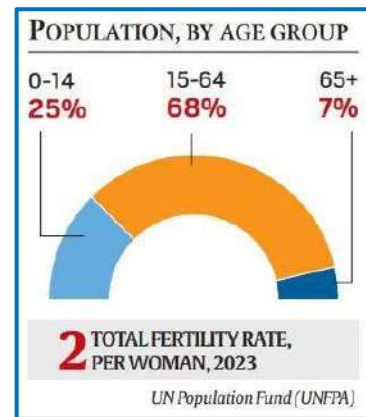
- While India is experiencing an increase in absolute numbers, due to lower fertility rates, the proportion of young people in the population is **likely to decrease in the coming years**.
- The proportion of the young population in India was more than 30 percent in the 2011 Census, which is **expected to reduce to 26.5 percent** as per UN World Population Projection.

#### Projected Growth in Global Population

- Just eight countries will account for half the **projected growth in the global population by 2050**.
- These are the Democratic Republic of **Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and Tanzania** – while two-thirds of people now live in a country where lifetime fertility **corresponds with zero growth**.

#### Rising Population Anxiety

- **Population anxieties are widespread** and governments are increasingly adopting policies aimed at raising, lowering or maintaining fertility rates. But efforts to influence fertility rates are very often ineffective and can erode women's rights.



### **Observations made in the Report**

#### Carbon Emissions

- Blaming fertility for climate change will not hold the greatest carbon emitters to account. Out of 8 billion people, **around 5.5 billion do not make enough money, about \$10 a day, to contribute significantly to carbon emissions**.

#### Family Planning Targets

- It warned that global experience showed that family planning targets can lead to gender-based discrimination and harmful practices such as prenatal sex determination leading to sex-selective abortion.
- Imposition of such targets can lead to **imbalanced sex ratios, preferential health and nutrition for male children, denial of the paternity of female children, violence against women for giving birth to girl children, and coercion of women to have fewer or greater numbers of children**.

#### Reproductive decisions

- Twenty-four percent of partnered women and girls are unable to say no to sex and 11 percent are unable to make decisions specifically about contraception.

#### Implications of Exposure to Media

- A survey of eight countries showed people who had been exposed to media or conversations about the world's population were more likely to view the global population as being too high.

### **Recommendations made in the UN Report**

#### Radical Rethinking

- The Report called for a radical rethink on how countries address changing demographics and **cautioned against the use of family planning as a tool for achieving fertility targets**.
- Instead of asking how fast people are reproducing, leaders should ask **whether individuals, especially women, are able to freely make their own reproductive choices**.

#### Reap Economic Dividends and Build Resilient Societies through Gender Equality

- The report strongly recommends governments **institute policies with gender equality and rights at their heart**, such as parental leave programs, child tax credits, policies that promote gender equality in the

workplace, and universal access to sexual and reproductive health and rights. These offer a proven formula that **will reap economic dividends and lead to resilient societies able to thrive no matter how populations change.**

### India's Demographic Dividend

- With close to 50% of its population below the age of 25, **India has a time-bound opportunity to benefit from the demographic dividend,** and it must convert this into “economic benefits through additional investments in health, education, and quality jobs for young people – including targeted investments in women and girls.”

### Gender Parity in Labour Force

- Greater gender parity in the labor force would do more to sustain economies in aging, low-fertility societies than setting targets for women to have more children.

## United Nations Population Fund

About	<ul style="list-style-type: none"> <li>• The United Nations Population Fund (UNFPA), formerly the United Nations Fund for Population Activities, is a UN agency.</li> </ul>
Aim	<ul style="list-style-type: none"> <li>• It is aimed at <b>improving reproductive and maternal health</b></li> </ul>
Genesis and History	<ul style="list-style-type: none"> <li>• The agency <b>began operations in 1969</b> as the <b>United Nations Fund for Population Activities</b> under the administration of the United Nations Development Fund.</li> <li>• In 1971 it was placed under the authority of the United Nations General Assembly.</li> <li>• Its name was changed to <b>United Nations Population Fund in 1987.</b></li> </ul>
Mandate	<ul style="list-style-type: none"> <li>• Its work includes developing National Healthcare Strategies and Protocols, increasing access to birth control, and leading campaigns against child marriage, gender-based violence, obstetric fistula, and female genital mutilation.</li> <li>• The UNFPA <b>supports programs in more than 144 countries.</b></li> </ul>
Areas of work	<ul style="list-style-type: none"> <li>• Voluntarily plan and have the number of children they desire and to avoid unwanted pregnancies.</li> <li>• Undergo safe pregnancy and childbirth.</li> <li>• Avoid spreading sexually transmitted infections.</li> <li>• Decrease violence against women.</li> <li>• Increase the equality of women.</li> <li>• Encouraging the use of birth control.</li> </ul>
Broader Goals	<ul style="list-style-type: none"> <li>• UNFPA uses a human rights-based approach in programming to address three "transformative goals":</li> <li>• Zero preventable maternal death.</li> <li>• Zero gender-based violence.</li> <li>• Zero unmet need for family planning.</li> </ul>

## 6.2 KURMI COMMUNITY

### Context

- At least 496 trains have been cancelled on the Kharagpur-Tatanagar and Adra-Chandil sections of the South Eastern Railway, due to agitation by hundreds of members of the Kurmi community.

### Kurmi Community

- **About:** Kurmi is a non-elite tiller caste in India's lower Gangetic plain, particularly in the southern regions of Awadh, eastern Uttar Pradesh, and parts of Bihar.

- **Key Characteristics:** The Kurmis earned praise from Mughal and British administrations for their remarkable work ethic, superior tillage and manuring, and gender-neutral society.
- **Categorisation:** The Kurmi community is now categorised as Other Backward Classes in Odisha, West Bengal, and Jharkhand, with the Odisha government additionally recognising the community as Socially and Educationally Backward Classes.
- **Recommendation:** State Governments of Jharkhand & West Bengal have consistently suggested that this community be added to the ST list.

## 6.3 SHORT TOPICS

### Bhoodan Gramdan Movement

#### Context

- Maharashtra village is fighting for the long forgotten Gramdan Act.

#### Bhoodan Movement

##### About

- The **Bhoodan movement** (Land Gift Movement), also known as **Bloodless Revolution**, was a voluntary land reform movement in India.

##### Who started it?

- It was initiated by Gandhian Vinoba Bhave in 1951 at Pochampally village, Pochampally.

##### Objective

- The Bhoodan movement **attempted to persuade wealthy landowners to voluntarily give a percentage of their land to landless people.**

##### Broader Objectives of Gramdan Movement:

1. Social reconstruction.
2. Economic upliftment.
3. Building a new social order based on equality and co-operation.
4. Based on the spirit of renunciation of private ownership
5. Based on collective ownership and communism.

##### Influence

- Philosophically, Bhave was influenced by Sarvodaya movement and Gram Swarajya.

##### Method

- Landless labourers were given the small plots that they could settle and grow their crops on. Bhoodan Acts were passed that stated that the **beneficiary had no right to sell the land or use it for non-agricultural purposes or for forestry.**

- Bhave crossed India on foot to persuade landowners to give up a piece of their land.
- After the first few years, while continuing on his Bhoodan padayatra, Bhave expanded the concept to the entire village putting its land under a common trust and everybody donating not just a small part of the land for the landless but also 1/40th of their income for the welfare of the poorest and village development. This concept was called Gramdan.

##### Significance

- It paved the way for the protection of natural resources by giving everyone in the community equal rights and responsibilities towards them and empowering the communities to move towards self-governance.
- Today, seven states in India have 3,660 Gramdan villages, the highest being in Odisha (1309). The states are Andhra Pradesh, Bihar, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Uttar Pradesh.

##### The success of Gramdan movement lies in the following lines:

- a) It can help in ending illiteracy and mutual quarrel among people.
- b) Litigation can end and the people can mutually help and assist each other.
- c) The problem of rural indebtedness can be solved.
- d) Rural economy and agriculture can improve.
- e) The standard of morality will increase among people.

*It is a fact that the movement has had more success among the Adivasis, who have a strong tradition of social cohesiveness.*



### Salient Features of The Gramdan Act

Different states have their own acts, but some of the basic salient features of the Gramdan Act are:

- At least 75 per cent of the landowners in the village should surrender land ownership to the village community. Such land should at least be 60 per cent of the village land.
- Five percent of the surrendered land is distributed to the landless in the village for cultivation. Recipients of such land cannot transfer the same without the permission of the community. The rest remains with the donors; they and their descendants can work on it and reap the benefits. But they cannot sell it outside the village or to one in the village who has not joined Gramdan.
- All the cultivators who have joined Gramdan should contribute 2.5 percent of their income to the community.

#### Present Status

- Many villages for example in Maharashtra and Rajasthan and found that the act **has lost much of its relevance today.**
- There are problems galore for the Gramdan villages, mainly **due to poor implementation of the law.**

#### Conclusion

- Over the years, successive governments started to become unfavourable towards this act because, under it, the land cannot be acquired.
- To conclude taking an overall view it cannot be gainsaid that the Bhoodan-Gramdan Movement, despite all its real & apparent limitations, it would ever be deemed as a

glorious attempt for a peaceful & non-violent solution to the basic land problem of Indian society & through it for a non-violent reconstruction of the Sarvodaya socio-economic-politico order of universal relevance & significance.

## **Hakki Pikki Tribal Community**

### Context

- More than 181 members of the HakkiPikki tribal community from Karnataka are stuck in violence-hit Sudan.

### HakkiPikki Tribes

- **About:** The HakkiPikki is a tribe that lives in several states in the west and south India, especially near forest areas.
- **Profession:** HakkiPikkis are a semi-nomadic tribe, traditionally of bird catchers and hunters.
- **Population:** According to the 2011 census, the HakkiPikki population in Karnataka is **11,892.**
- **Roots:** HakkiPikki people hail originally from the bordering districts of Gujarat and Rajasthan.
- **Movement:** The HakkiPikki move in groups from place to place in search of livelihood.
- **Clans:** They are divided into four clans, called Gujaratia, Panwar, Kaliwala, and Mewaras.
- **Rituals:** Hakki Pikkis in Karnataka follow Hindu traditions and celebrate all Hindu festivals.

## 6.4 QUESTION

**Q. Briefly discuss the objectives of Bhoodan and Gramdan movements initiated by Acharya Vinoba Bhave and their success.**

#### **Introduction**

- The **Bhoodan movement** (Land Gift Movement), was a voluntary land reform movement in India. It was initiated by Gandhian Vinoba Bhave in 1951 at

Pochampally village. Bhave was influenced by Sarvodaya movement and Gram Swarajya.

- The Bhoodan movement **attempted to persuade wealthy landowners to voluntarily give a percentage of their land to landless people.**

### Aims and Objectives of Bhoodan Movement:

- To bring about a social order based on equality of opportunities by ensuring balanced economic distribution.
- Decentralisation of economic holdings and powers. Vinobaji writes, while describing the objectives of Bhoodan movement, "In fact, objective is of three fold."
- Power should be decentralised from village to village.
- Everybody should have a right on land and property.
- There should be no distribution in the matter of wages etc.

### Bhoodan Movement and the concept of Gramdan

- In this, Landless labourers were given the small plots that they could settle and grow their crops on. Bhoodan Acts were passed that stated that the **beneficiary had no right to sell the land or use it for non-agricultural purposes or for forestry.**
- Bhave crossed India on foot to persuade landowners to give up a piece of their land. After the first few years, while continuing on his Bhoodan padayatra, Bhave expanded the concept to the entire village putting its land under a common trust and everybody donating not just a small part of the land for the landless but also 1/40th of their income for the welfare of the poorest and village development. This concept was called Gramdan.

### Salient Features of The Gramdan Act

Different states have their own acts, but some of the basic salient features of the Gramdan Act are:

- At least 75 per cent of the landowners in the village should surrender land ownership to the village community. Such land should at least be 60 per cent of the village land.
- Five percent of the surrendered land is distributed to the landless in the village for cultivation. Recipients of such land cannot transfer the same without the permission of the community. The rest remains with the donors; they and their descendants can work on it and reap the benefits. But they cannot

sell it outside the village or to one in the village who has not joined Gramdan.

- All the cultivators who have joined Gramdan should contribute 2.5 percent of their income to the community.

### Outcomes of the Bhoodan Movement

- The movement got off to a good start from 1952 to 1954. **More than 3 million acres of land were received as Bhoodan** during these periods. It gained a lot of success, especially in Northern India in UP and Bihar. Over 4.5million acres of land in India was given as a donation by 1957. The core belief of land being a gift of earth which belonged to everyone made its way into minds of everyone.
- But the movement could not continue with that vigour and success due to certain weaknesses. The fundamental weakness of Bhoodan movement was that its appeal was directed not to the poor and landless, but to the rich and landlords. When the Bhoodan campaigners marched into the village of the well off, they made a good show by giving away a few patches of land. But they were careful to retain securely in their grasp the holdings and essential economic operations upon which their control of the village rests. So the voluntary donations of lands were not the generous offerings of the rich. In many States the landlords donated lands to escape from the ceiling laws. They had "no free will".
- With time, many problems seeped into the movement later such as **slow progress, bribery, donating bogus land, greed to get more land or incorrect implementation in some regions.** The movement soon dissipated due to increasing misuse of a voluntary movement for self-serving purposes by a few.

### Closing Remarks

- Despite its limited success, the Movement paved the way for the protection of natural resources by giving everyone in the community equal rights and responsibilities

empowering the communities to move towards self-governance.

- Today, seven states in India have 3,660 Gramdan villages, the **highest being in Odisha (1309)**. The states are **Andhra Pradesh, Bihar, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Uttar Pradesh.**

**It is needless to say that the movement had certain positive advantages:**

- It was a bold step towards solving the problems of landless labourers in very peaceful manner.
- It helped in bringing more land under plough. Even uncultivable land is cultivated.

- It helped in the direction of tax burden. When no compensation amount is to be paid, less amount will be needed on that account; which means less burden which when viewed in Indian context where the people are already over taxed, means much.
- It helped in reducing the exploitation of the poor cultivators by the rich zamindars.
- The Bhoodan movement acquires great significance in the context of urgent change. "It underlines traditions that are implicit in the Indian way of life. It recaptures the idea of the social order as the family writ large.

# STEP UP PROGRAMME

## 2023


### SUBJECT-WISE SECTIONAL TESTS

**Tests Coverage**

- 60 All India Level Tests in Total
- 31 Sectional Tests covering old and new NCERTs + standard books
- 5 PYQ Based Tests as UPSC repeats its questions many times (directly/indirectly)
- 7 Current Affairs Tests covering 1 year of complete current affairs
- 10 GS Full Length Tests
- 7 CSAT Tests

**Other Unique Features**

- Appear in any test anytime and anywhere before UPSC CSE Prelims exam.
- Option to take the same test twice
- Covers all major standard books, newspapers, magazines & Govt. sources.
- Subject wise & topic wise questions based on latest pattern
- Systematic assessment & feedback of student's performance
- Compete nationally and find where you stand amongst the real competition.
- Tests prepared by pool of India's most adroit professionals
- Free counseling



- SCIENCE & TECHNOLOGY
- GEOGRAPHY
- ECONOMY
- ENVIRONMENT & ECOLOGY
- HISTORY
- POLITY

## 7. SCIENCE & TECHNOLOGY, HEALTH

### 7.1 CERT-IN

#### Context

- The Indian Computer Emergency Response Team (CERT-in) may soon be exempt from responding to queries under the Right to Information Act.

#### Details

- The Department of Personnel and Training has reviewed a proposal from the Ministry of Electronics and Information Technology to include CERT-in in the **Second Schedule to the RTI Act**, which deals with exempted organisations like the Central Bureau of Investigation (CBI) and the Border Security Force (BSF).
- The exemption would allow **CERT-in to reject any application for information, even on policy related matters.**
- This is significant in light of the April 2022 directions the body issued to require **Virtual Private Network (VPN)** providers and cryptocurrency firms to preserve user requests.
- The directions are being challenged in the Delhi High Court, and the government has argued that **absolute anonymity online is not acceptable.**
- Several major VPN providers have pulled their servers out of India, arguing that the directions would compromise users' privacy on the internet.

#### About Second Schedule of RTI:

- Section 24** is the most underrated yet important Section in the Act, since it embodies the list of exempted organizations from disclosure of information.

- Section 8 and 9 of the Act** enumerate the categories of information which are exempt from disclosure.
- Though the public authority is bound to disclose the information but the right to seek information from a public authority is not absolute and every information is not to be disclosed from these organizations except in cases related to corruption and human rights violation.
- Schedule-II of the Act** contains the names of the **Intelligence and Security organizations** which are exempt from the purview of the Act.
  - Some Exempted organizations under 2<sup>nd</sup> Schedule of RTI:**
    - ✓ Intelligence Bureau
    - ✓ Research and Analysis Wing of the Cabinet Secretariat
    - ✓ Directorate of Revenue Intelligence
    - ✓ Central Economic Intelligence Bureau
    - ✓ Directorate of Enforcement
- Exemptions under section 24:**
  - Act shall **not apply to the intelligence and security organizations** specified in the **Second Schedule**, being organizations established by the **Central Government** or any information furnished by such organizations to that Government.
  - It provided that the information pertaining to the allegations of **corruption and human rights violations shall not be excluded** under this sub-section.

**READ:** <https://www.iasgyan.in/daily-current-affairs/rti-act>

#### **The Indian Computer Emergency Response Team (CERT-In or ICERT)**

<b>Ministry</b>	<ul style="list-style-type: none"> <li>Ministry of Electronics and Information Technology.</li> </ul>
<b>Background</b>	<ul style="list-style-type: none"> <li>CERT-In was established in 2004 as a functional organization of the Ministry of Electronics and Information Technology.</li> </ul>
<b>Significance</b>	<ul style="list-style-type: none"> <li>It is the <b>central organisation</b> for handling risks to cyber security including hacking and phishing. It strengthens the Indian Internet domain's <b>security-related defence.</b></li> </ul>

- |  |   |
|--|---|
| <p><b>Overlapping responsibilities</b></p> | <ul style="list-style-type: none"> <li>• <b>National Critical Information Infrastructure Protection Centre (NCIIPC)</b> which is under the <b>National Technical Research Organisation (NTRO)</b> that comes under the Prime Minister's Office</li> <li>• <b>The National Disaster Management Authority (NDMA)</b> is under the <b>Ministry of Home Affairs</b>.</li> </ul> |
|--|---|

- **National Critical Information Infrastructure Protection Centre (NCIIPC)** is an organisation of the Government of India created under **Sec 70A of the Information Technology Act, 2000** (amended 2008), through a gazette notification on 16th Jan 2014 Based in New Delhi, India, it is designated as the **National Nodal Agency** in respect of **Critical Information Infrastructure Protection**.
- **The National Technical Research Organisation (NTRO)**, originally known as the National Technical Facilities Organisation (NTFO), is a highly specialised technical **intelligence gathering agency**. While the agency does not affect the working of **technical wings of various intelligence agencies**, including those of the Indian Armed Forces, it acts as a **super-feeder agency** for providing technical intelligence to other agencies on internal and external security.
- **The National Disaster Management Authority (NDMA)**, headed by the Prime Minister of India, is the **apex body** for Disaster Management in India. Setting up of NDMA and the creation of an enabling environment for institutional mechanisms at the State and District levels is mandated by the **Disaster Management Act, 2005**.

### Functions of CERT-In

- **Collection, analysis and dissemination** of information on cyber incidents.
- **Forecast and alerts** of cyber security incidents
- **Emergency measures** for handling cyber security incidents
- **Coordination of cyber incident** response activities.
- **Issue guidelines, advisories, vulnerability notes and whitepapers** relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
- Such other functions relating to **cyber security** as may be prescribed.

### Closing remarks

- The directions cover aspects relating to synchronization of ICT system clocks; mandatory reporting of cyber incidents to CERT-In; maintenance of logs of ICT systems; subscriber/customer registrations details by Data centers, Virtual Private Server (VPS) providers, VPN Service providers, Cloud service providers; KYC norms and practices by virtual asset service providers, virtual asset exchange providers and custodian wallet providers. These directions shall enhance overall cyber security posture and ensure safe & trusted Internet in the country.

## 7.2 CYBERSECURITY

### Context

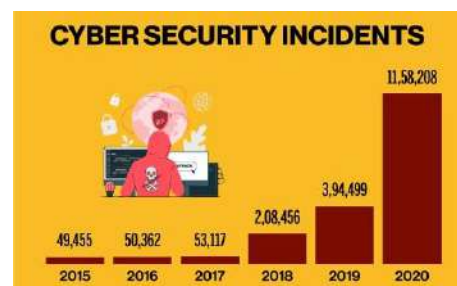
- According to trade data review an Indian defence agency has been purchasing equipment from an Israeli spyware firm that is being billed as a potential Pegasus alternative.

### Details:

- **Issues: Cognyte regularly** targeted journalists, dissidents, critics of authoritarian regimes, families of opposition, and human rights activists around the world, **without their knowledge**, and collected

intelligence on these people by manipulating them to reveal information and/or by compromising their devices and accounts.

- **Defence sources on condition of anonymity:** There is no equipment held with the Indian Army which can monitor end point communication devices such as smartphones.



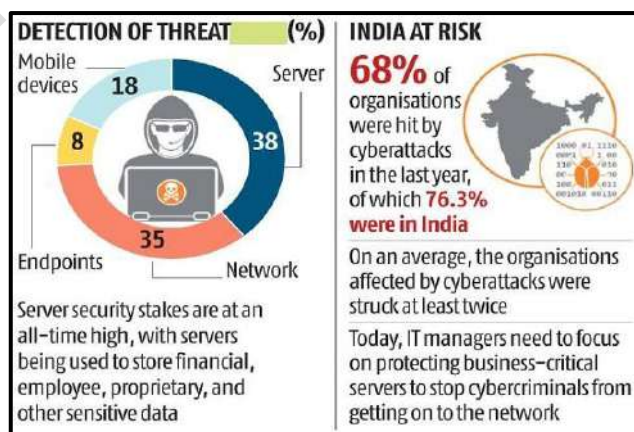
### About Cybersecurity

- Cybersecurity is the practice of protecting critical systems and sensitive **information from digital attacks**. Also known as **information technology (IT) security**, cybersecurity measures are designed to combat threats against networked systems and applications, whether those threats originate from inside or outside of an organization.

**In 2020, the average cost of a data breach was USD 3.86 million globally, and USD 8.64 million in the United States.**

### Need for Cybersecurity

- **Government’s digital push:** Various programs of government such as Aadhaar, MyGov, Government e-Market, DigiLocker, Bharat Net etc. are prompting a larger number of citizens, companies and government agencies to transact online.
- India the **fifth most vulnerable** country in the world in terms of cybersecurity breaches.
- India saw at least one cybercrime every 10 minutes during the first half of 2017 including more sophisticated cyber threats such as the WannaCry and Petya ransomware.
- India accounted for **5.09 per cent of all cyberattacks** such as malware, spam and phishing attacks detected globally in 2017.
- The **estimated cost of cyber-attacks** in India stands at four billion dollars which is expected to reach \$20 billion in the next 10 years.
- **India ranks 3rd in terms of number** of internet users after USA and China. By 2020, India is expected to have 730 million internet users with 75% of new users from rural areas. The number has grown 6-fold between 2012-2017 with a compound annual growth rate of 44%.
- **India secures a spot amongst the top 10 spam-sending** countries in the world alongside USA
- India was ranked among the top five countries to be affected by cybercrime, according to a 22 October report by online security firm "Symantec Corp".



### Cybersecurity myths

- **Cybercriminals are outsiders.** In reality, cybersecurity breaches are often the result of malicious insiders, working for themselves or in concert with outside hackers.
- **Risks are well-known.** In fact, the risk surface is still expanding, with thousands of new vulnerabilities being reported in old and new applications and devices.
- **Attack vectors are contained.** Cybercriminals are finding new attack vectors all the time - including Linux systems, operational technology (OT), Internet of Things (IoT) devices, and cloud environments.

## Common cyber threats

<b>Malware</b>	<ul style="list-style-type: none"> <li>The term “malware” refers to malicious software variants—such as worms, viruses, Trojans, and spyware—that provide unauthorized access or cause damage to a computer.</li> <li>Malware attacks are increasingly “fileless” and designed to get around familiar detection methods, such as antivirus tools, that scan for malicious file attachments.</li> </ul>
<b>Ransomware</b>	<ul style="list-style-type: none"> <li>It is a type of malware that locks down files, data or systems, and threatens to erase or destroy the data - or make private or sensitive data to the public - unless a ransom is paid to the cybercriminals who launched the attack.</li> <li>Recent ransomware attacks have targeted state and local governments, which are easier to breach than organizations and under pressure to pay ransoms in order to restore applications and web sites on which citizens rely.</li> </ul>
<b>Phishing / social engineering</b>	<ul style="list-style-type: none"> <li>Phishing is a form of social engineering that tricks users into providing their own PII or sensitive information.</li> <li>In phishing scams, emails or text messages appear to be from a legitimate company asking for sensitive information, such as credit card data or login information.</li> </ul>
<b>Insider threats</b>	<ul style="list-style-type: none"> <li>Current or former employees, business partners, contractors, or anyone who has had access to systems or networks in the past can be considered an insider threat if they abuse their access permissions.</li> </ul>

## Institutional Framework

- THE INFORMATION TECHNOLOGY ACT 2000** continues to be the omnibus legislation that governs cyber security policy in the country, and it includes provisions for digital signatures, e-governance, e-commerce, data protection, cyber offences, critical information infrastructure, interception and monitoring, blocking of websites and cyber terrorism.
- INDIAN COMPUTER EMERGENCY RESPONSE TEAM (CERT-IN)**, established within the Ministry of Electronics and Information Technology (MeitY), issues alerts and advisories regarding the latest cyber threats and countermeasures on a regular basis, and has published guidelines for securing IT infrastructure.
- The **NATIONAL CYBER SECURITY POLICY (NCSP) 2013** document was prepared by the Ministry of Communications and Information Technology to facilitate the creation of a secure cyberspace ecosystem and strengthen the existing regulatory frameworks.
- The **Office of the NATIONAL CYBER SECURITY COORDINATOR (NCSC)** was established under the National Security Council Secretariat as the nodal agency for cyber security established for the purpose.

## Way Forward

- To tackle cyber threats on an urgent basis, the **government and industry players** have built capabilities that are being driven by advanced AI and ML solutions.
- Typically, these tools rely on **large volumes of digital transaction data** to detect and prevent fraudulent transactions to prevent hacks.
- Algorithms** are used to track and analyze large transactions, detect suspicious activity in user accounts, and send alerts.
- Behavioural analytics** and **passive biometrics** are key to identifying good users versus bad actors, for example, the way the user is holding the phone, typing speed, device attributes etc.

- AI/ ML help in analysing data from millions of cyber incidents and using it to identify potential threats or a new variant of malware.
- Today, there are **risk mitigation tools designed** for small businesses with self-scan capability. They enable businesses to scan their websites for potential cyber vulnerabilities by simply running them from a portal, much like how one uses an antivirus for devices.

### Conclusion

- As cybersecurity will continue to remain a potent factor in **India's digital ecosystem**, all stakeholders must focus on a collaborative approach to develop formidable solutions that can create safer digital spaces.
- **The role of policymakers** will be equally crucial as they can help the industry in catalysing innovation and bringing new solutions to the market at a faster pace and with enhanced agility.

## 7.3 GENOME INDIA PROJECT

### Context

- The Human Genome Project is two-thirds through- the Department of Biotechnology.

### Details

- Every organism's genetic code is contained in its **Deoxyribose Nucleic Acid (DNA)**, the building blocks of life.
- A genome, simply put, is all the genetic matter in an organism.
- It is defined as "**an organism's complete set of DNA**, including all of its genes.
- Each genome contains all of the information needed to build and maintain that organism.
- In humans, a copy of the entire genome – more than **3 billion DNA base pairs** – is contained in all cells that have a nucleus".

### About

- **Department of Biotechnology (DBT)** initiated the ambitious "Genome India Project" (GIP) on 3rd January 2020.
- **It is a Central Sector Project.**

### Aim

- It aims to collect **10,000 genetic samples** from citizens across India, to build a reference genome.

### Genetic matter

- The genome **contains all the genetic matter** in an organism, i.e., the complete set of DNAs.

### Goal

- To develop **predictive diagnostic indicators** for several high-priority diseases and other uncommon and genetic disorders.
- In phase 2, the project would collect genetic samples from patients with three broad categories - **cardiovascular diseases, mental illness, and cancer.**
- Through **whole-genome sequencing**, the plan is to build an exhaustive catalogue of genetic variations for the Indian population.

### Targeted areas

- Precision health, **Rare genetic disorders, Mutation spectrum of genetic and complex diseases** in the Indian population, **Genetic Epidemiology of Multifactorial Lifestyle Diseases, and Translational Research.**

### Funded by

- This is a national project funded by **Department of Biotechnology, Government of India.**

**READ:** <https://www.iasgyan.in/daily-current-affairs/human-genome-project>



## Significance

- **Predictive Diagnostic Markers:**
  - This would aid our understanding of the nature of diseases affecting the Indian population, and then ultimately support the development of predictive diagnostic markers.
- **Next-Generation Personalized Medicine**
  - It would also open new vistas for advancing next-generation personalized medicine in the country, paving the way for predicting health and disease outcomes and modulating treatment protocols based on the genome sequences.
- **Targeted Preventive Care**
  - The initiative would also support the development of targeted preventive care, as it has the potential to help identify those population groups which are more susceptible to various risk factors for certain diseases.
- **Precision Medicine**
  - This initiative reflects India's progress in **gene therapies and precision medicine**, and its movement towards emerging next-generation medicine which yields the possibilities for greater customization, safety, and earlier detection.
    - ✓ This initiative would help lay the foundation of **personalized healthcare** for a very large group of persons on the planet.

**GenomeINDIA**  
'Cataloguing the Genetic Variation in Indians'

**Reference Genome for India**  
A national genome sequencing project to sequence 10,000 Indians

**Disease gene identification**  
Catalogue all the genetic variations in Indians to help identify disease causing genes

**Capacity building & networking**  
Training manpower to handle large genetic data sets and other resources across institutions in India

**Resources for larger & cheaper genetic studies**  
Resources generated, will help build arrays and technologies for large scale cheaper genetic studies in India.

**Genetic basis for adverse affects and response to drugs**  
This study will help pave the way to understand why some people respond to some drugs & why some develop adverse reaction depending upon their genetic background.

**@Partners**  
Department of Biotechnology, Government of India  
ICG  
NIBM  
CCMB  
ISER PUNE  
ncbs

An initiative of Department of Biotechnology, Ministry of Science & Technology, Government of India

## Benefits of GIP

- **Precise genetic information:** The information generated from whole genome sequencing can facilitate future human genetics research in the country with greater precision, and to design a genome wide association array for the Indian population to develop precision healthcare and diagnostics for major diseases at affordable costs.
- The **data security and sharing measures** for this project will be governed by the rules and regulations formulated by Government of India.
- **The personal information** of all individuals consenting to participate in the study is stripped off from any further records in this project.
- This process of **de-identification ensures** that the personal information of the participants is not compromised.
- Additionally, **ethical measures** are strictly adhered to in order to maintain data security and protection.

### Challenges

- Currently, there is a dearth of **publicly available resources** that provide an **extensive list of clinically significant variants** in Indian patients, for several genetic diseases.
- It raises concerns about the **potential for scientific racism and the reinforcement** of stereotypes based on heredity and racial purity.
- The project also raises questions about **data privacy and storage**.
- It raises ethical questions about the potential for doctors to privately perform **gene modification or selective breeding**.
- **Restricted availability** to genetic analysis and preventative treatment may exacerbate existing inequalities and cause social conflicts.

### Closing remarks

- In a nutshell, sequencing has the power to revolutionize food safety and sustainable agriculture including animal, plant and public health, improving agriculture through effective plant and animal breeding and reducing the risks from disease outbreaks.

## 7.4 JUICE MISSION

### Context

- Under JUICE Mission, the spacecraft will observe Jupiter and its three largest moons: Callisto, Europa, and, in particular, Ganymede.

### Details

<b>Launch date</b>	14 April 2023	<b>Launch location</b>	Europe's Spaceport in French Guiana
<b>Launch Vehicle</b>	Ariane 5	<b>Goal</b>	It will explore Jupiter and three of its icy moons in depth.
<b>Destination</b>	Jupiter system	<b>Science Targets</b>	Jupiter, Ganymede, Callisto, Europa

### How it will function?

- Following the launch, there will be multiple planned gravity assists to put JUICE on a trajectory to Jupiter:
  - a flyby of **the Earth–Moon system** in August 2024, Venus in August 2025,
  - second flyby of Earth in **September 2026**, and a third and final flyby of Earth in January 2029.
- JUICE will pass through the asteroid belt twice. A flyby of the **asteroid 223 Rosa** has been proposed, and could occur in October 2029.

### Gravity assists include

- Interplanetary transfer (**Earth, Venus, Earth, Mars, Earth**)
- Jupiter orbit insertion and **apocentre reduction** with multiple Ganymede gravity assists
- Reduction of velocity with **Ganymede–Callisto assists**
- Increase inclination with **10–12 Callisto gravity assist**

### Objectives

- The JUICE orbiter will perform detailed investigations on **Ganymede** and evaluate its **potential to support life**. Investigations of Europa and **Callisto** will complete a comparative picture of these **Galilean moons**.

- The three moons are thought to harbour internal liquid water oceans, and so are central to understanding the habitability of icy worlds.
  - **Characterisation of the ocean layers** and detection of putative subsurface water reservoirs
  - **Topographical, geological and compositional mapping** of the surface
  - Study of the **physical properties** of the icy crusts
  - **Characterisation of the internal mass distribution**, dynamics and evolution of the interiors
  - **Investigation of Ganymede's** tenuous atmosphere
  - **Study of Ganymede's intrinsic magnetic field** and its interactions with the Jovian magnetosphere.

## Science instruments

### Jovis, Amorum ac Natorum Undique Scrutator (JANUS)

- A camera system to image **Ganymede and interesting** parts of the surface of **Callisto** at better than 400 m/pixel (resolution limited by mission data volume).

### Moons and Jupiter Imaging Spectrometer (MAJIS)

- A visible and infrared imaging **spectrograph operating from 400 nm to 5.70  $\mu\text{m}$** , with spectral resolution of 3–7 nm, that will observe tropospheric cloud features and minor gas species on Jupiter and will investigate the composition of ices and **minerals on the surfaces of the icy moons**.

### UV Imaging Spectrograph (UVS)

- An imaging spectrograph operating in the wavelength **range 55–210 nm with spectral resolution of <0.6 nm** that will characterise exospheres and aurorae of the icy moons, including plume searches on Europa, and study the Jovian upper atmosphere and aurorae.

### Sub-millimeter Wave Instrument (SWI)

- A spectrometer **using a 30 cm (12 in) antenna** and working in **1080–1275 GHz and 530–601 GHz** with spectral resolving power of  $\sim 107$  that will study Jupiter's stratosphere and troposphere, and the exospheres and surfaces of the icy moons.

### Ganymede Laser Altimeter (GALA)

- A laser altimeter with a **20 m (66 ft) spot size and 10 cm (3.9 in) vertical resolution at 200 km (120 mi)** intended for studying topography of icy moons and tidal deformations of Ganymede.

## About Jupiter

- Jupiter is the **biggest planet** in our solar system. It has big storms like **the Great Red Spot**, which has been going for hundreds of years. Jupiter is a gas giant and doesn't have a solid surface, but it may have a solid inner core about the size of Earth. Jupiter also has rings, but they're too faint to see very well.

### Structure and Surface

- It is the **biggest planet** in our solar system.
- **It is a gas giant**. It is made mostly of hydrogen and helium.
- It has a **very thick atmosphere**.
- It **has rings**, but they're very hard to see.

### Time on Jupiter

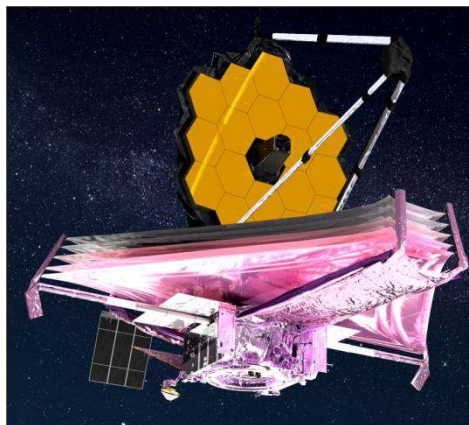
- One day on Jupiter goes by in **just 10 hours**.
- One year on Jupiter is the same as **11.8 Earth years**.

### Jupiter's Neighbors

- Jupiter has 79 confirmed moons.
- Jupiter is the **fifth planet** from the Sun. That means Mars and Saturn are Jupiter's neighboring planets.

### Quick History

- Jupiter has been known since **ancient times because** it can be seen without advanced telescopes.
- Jupiter has been visited or passed by several spacecraft, orbiters and probes, **such as Pioneer 10 and 11, Voyager 1 and 2, Cassini, New Horizons, and Juno**.



### James Webb Space Telescope

- The James Webb Space Telescope (JWST or "Webb") is a joint NASA-ESA-CSA space telescope that is planned to succeed the Hubble Space Telescope as NASA's flagship astrophysics mission.
- JWST will study various phases in the history of the universe, from the formation of solar systems to the evolution of our own Solar System.
- The telescope must be kept very cold in order to observe in the infrared without interference, so it will be deployed in space near the Sun-Earth L2 Lagrange point.
- Also a large sunshield made of silicon-coated and aluminium-coated Kapton will keep its mirror and instruments below 50 K (-223.2°C).

## 7.5 QUASARS

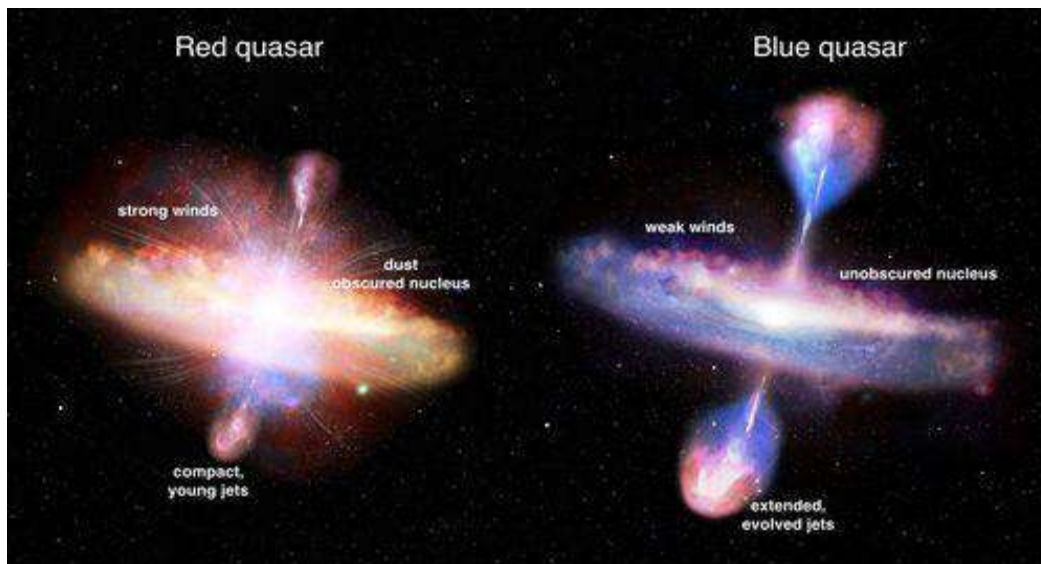
### Context

- The collision of two galaxies likely ignites quasars, the new study published in the journal Monthly Notices of the Royal Astronomical Society highlighted.

### Key facts about Quasars

- The **first quasar** that was discovered was in **1950** and was named **3C 273**.
- Quasars can **only be detected using radio telescopes**.
- They are **100 times more luminous** than our entire Milky Way which consists of **nearly 200-400 billion stars!**
- The charged particles inside the **quasar jets travel at nearly the speed of light**, making them visible from a very long distance.
- **Quasars show high redshift**. A redshift is defined as an object's light spectrum shifting towards the red end of the visible light range.
- It has been found that quasars are **drifting away from us at the speed of at least 93,200 miles per second (which is half the speed of light)**. Some quasars move at 93% of the speed of light.

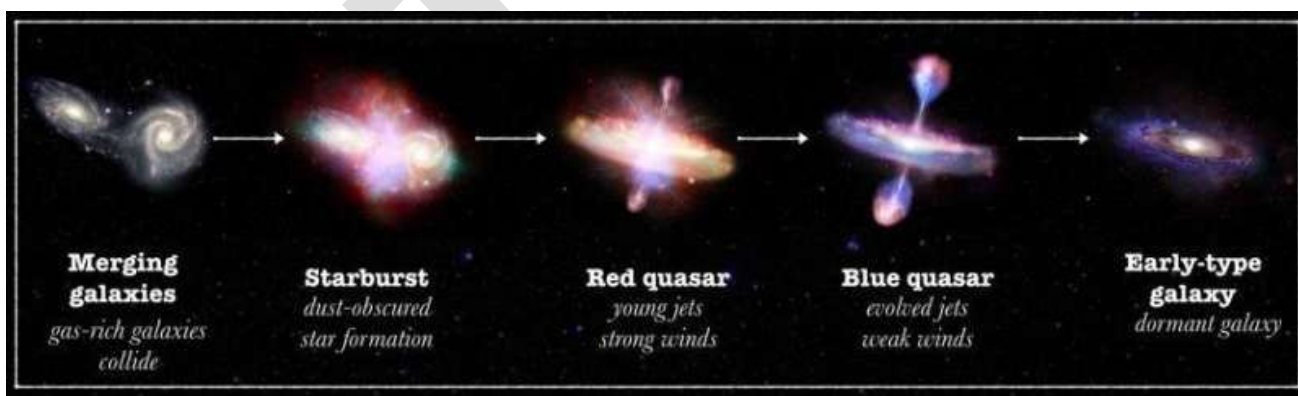
<b>About</b>	<ul style="list-style-type: none"> <li>• A quasar is an extremely active and luminous type of <b>active galactic nucleus (AGN)</b>.</li> <li>• It is sometimes known as a <b>quasi-stellar object (QSO)</b>.</li> <li>• It is a <b>supermassive black hole</b> feeding on gas at the center of a distant galaxy.</li> </ul>
<b>Discovered</b>	<ul style="list-style-type: none"> <li>• Quasar is short for quasi-stellar radio source, because astronomers <b>first discovered quasars in 1963</b> as objects that looked like stars but emitted radio waves.</li> </ul>
<b>Size</b>	<ul style="list-style-type: none"> <li>• Generally <b>larger than our solar system</b> and approximately <b>1 kiloparsec</b> in width.</li> </ul>
<b>Purpose</b>	<ul style="list-style-type: none"> <li>• They are among the <b>brightest objects known in the Universe</b>, and therefore are visible to the greatest possible distances.</li> <li>• They appear to live in galaxies, so they <b>can help us understand galaxy formation and evolution</b>.</li> </ul>
<b>Location</b>	<ul style="list-style-type: none"> <li>• Astronomers think that quasars are <b>located in galaxies which have black holes at their centers</b>. The black holes may provide quasars with their energy.</li> </ul>
<b>Emit</b>	<ul style="list-style-type: none"> <li>• They emit <b>radio waves, x-rays, and light waves</b>.</li> </ul>



### Early Research on Quasars

- Before the introduction of the **Hubble Space Telescope**, relatively little was known about quasars and their formation.
- **Many scientists believed that quasars were isolated stars** located in the deepest sectors of space.
- What was unclear, however, was why these objects appeared to emit large amounts of radiation (at numerous frequencies).
- Moreover, the fact that these **distant objects changed in their overall luminosity** (very rapidly) baffled scientists as their observed properties appeared to defy both logic and explanation.

*The Hubble Space Telescope provided scientists with the first real opportunity to study these deep-space objects from a new perspective, shining new light on their role and origins. With the limitations of ground-based observation a thing of the past, Hubble allowed astronomers to see for the first time that quasars were not single stars at all, but rather, central hubs of distant galaxies.*



### Types of Quasars

- **Radio-Loud Quasars:**
  - These quasars are known to possess **strong and powerful “jets” that give off high-frequency radio waves.**
  - Of the known quasars to exist in the universe, this group currently makes up approximately ten percent of the overall quasar population.
- **Radio-Quiet Quasars:**

- Unlike the radio-loud quasars, radio-quiet quasars **lack powerful jets and provide far weaker forms of radio waves** in their emission.
- Almost **ninety percent of quasars fall into this subcategory.**
- **Type II Quasars:**
  - These quasars have **accretion disks and emission lines** that are obscured by the presence of dust and gas.
- **Red Quasars:**
  - These quasars, as the name implies, are **more reddish in color** and are believed to have developed from the **extinction of dust** in their host galaxy.
- **Optically Violent Variable (OVV) Quasars:**
  - These quasars are radio-loud, with their jets pointed **directly toward the observer on Earth.**
  - These quasars vary significantly in their luminosity and brightness, as the emission of their jets fluctuates rapidly in their overall strength.
  - For this reason, OVV quasars are often **considered a subcategory of blazars.**

### Significance of Quasars

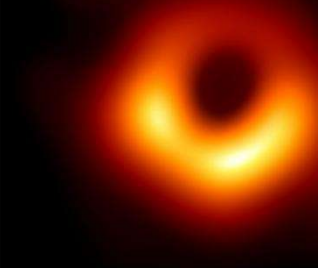
- When a quasar is ignited, it **can drive the rest of the gas out of the galaxy.**
- The radiation from these objects is so intense that intervening gas within the galaxy feels a pressure that moves it away from the quasar in the nucleus, driving “**outflows**” of material,
- **In extreme cases,** a significant fraction of the total gas in a galaxy gets displaced. This has drastic consequences on star formation.
- Also, the **collision of the Milky Way galaxy with the Andromeda galaxy** could likely trigger a quasar.
- Quasars are one of the most extreme phenomena in the universe and what we see is likely to represent the future of our own Milky Way galaxy when it collides with the Andromeda galaxy in about five billion years.
- Quasars act as “**cosmic lighthouses**”, allowing researchers to see the outer reaches of the universe.

### Life and Death Cycle of Quasars

- In more recent years, scientists have turned their attention to **the life cycle of quasars** in an attempt to better understand their physical properties.
- It is currently theorized that quasars will continue to **emit light as long as there is steady amounts of fuel** to form an accretion disk along the black hole.
- It is estimated that quasars consume approximately a thousand to two thousand “**solar masses of material**” each year.
- Some of the largest known quasars are estimated to consume “**matter equivalent to 600 Earths**” every minute.
- At this rate, average quasars are believed to live anywhere from a **hundred million years to several billion years.**
- Once quasars **consume their fuel supply,** however, they effectively “**switch off,**” **leaving only the light** from its host galaxy to permeate throughout the far reaches of the universe.
- Scientists currently believe that **quasars were more common during the early stages of our universe.** However, more **evidence is needed to make this theory conclusive** as we are just now beginning to understand the fundamental properties of quasars and their purpose in the universe at large.

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**BLUE STRAGGLER:** <https://www.iasgyan.in/daily-current-affairs/blue-straggler-20>



### About Black Hole

- A black hole is a place in space where gravity pulls so much that even light can not get out.
- The gravity is so strong because matter has been squeezed into a tiny space.
- This can happen when a star is dying.
- Because no light can get out, people can't see black holes. They are invisible.
- Space telescopes with special tools can help find black holes.
- The special tools can see how stars that are very close to black holes act differently than other stars.

## 7.6 LOCKBIT RANSOMWARE

### Context

- LockBit ransomware was found to be targeting Mac devices, in a first.

<b>First reported</b>	<ul style="list-style-type: none"> <li>• First reported in <b>September 2019</b> and dubbed the <b>"abcd" virus</b>, due to the file extension used when encrypting victim's files.</li> </ul>
<b>About</b>	<ul style="list-style-type: none"> <li>• The virus is categorised as <b>a "crypto virus"</b> due to its requests for payment in cryptocurrency to decrypt the files on the victim's device.</li> <li>• The ransomware is therefore typically deployed against victims who feel hindered enough by the disruption to pay heavy sums in exchange for access and can afford to do so.</li> </ul>
<b>Designed</b>	<ul style="list-style-type: none"> <li>• The LockBit ransomware is designed to <b>infiltrate victims' systems</b> and <b>encrypt important files</b>.</li> </ul>

- In the past, LockBit ransomware has been used to target enterprises and organisations in the **U.S., China, India, Ukraine, and Indonesia**. Attacks have also been recorded throughout Europe, including in **France, Germany, and the U.K.**

### Why is LockBit targeting macOS?

- Historically, ransomware has targeted Windows, Linux, and VMware ESXi servers. However, the LockBit is now working to create encryptors targeting Macs for the first time.
- Analysis of the encryptors revealed they were put together as a test, rather than an actual ready-to-use ransomware.
- After launching multiple attacks across Europe and Asia, the gang is developing tools to target macOS and further increase the scope of attacks to bring in more financial gains for the operation.

### How does LockBit ransomware work?

- **It works as a self-spreading malware**, not requiring additional instructions once it has successfully infiltrated a single device with access to an organizational intranet.
- **It is also known to hide executable encryption files** by disguising them in the **.PNG format**, thereby avoiding detection by system defences.
- **Attackers use phishing tactics and other social engineering methods** to impersonate trusted personnel or authorities to lure victims into sharing credentials.
- Sometimes, the ransomware has also used brute force to **gain access to the intranet server and network** of an organization.
- Once it has gained access, the ransomware prepares the system to release its **encryption payload across as many devices as possible**.

- It then disables security programs and other infrastructures that could permit system data recovery. The goal is to ensure that data recovery without assistance from the LockBit gang is impossible.

### What is the LockBit ransomware gang?

- The group behind this is known as the LockBit gang. It is considered the most prolific ransomware group ever.
- It operates on the ransomware-as-a-service (Raas) model and comes from a line of extortion cyberattacks.
- In this model, willing parties put down a deposit for use in a custom attack and make profits through the ransom payment.
- The ransom is divided between the LockBit developer team and attacking affiliates, who receive up to three-fourths of the ransom, cybersecurity company Kaspersky.
- **Though the exact location of the gang is yet to be ascertained**, their attack patterns and propensity to avoid attacking Russian systems or countries within the Commonwealth of Independent States (CIS) suggest the group operates within its territories, and that it avoids these countries to escape prosecution.

### What actions have authorities taken?

- Due to its ransomware-as-a-service model, the LockBit gang has been on the authorities' radar for some time.

- In November 2022, a dual Russian and Canadian national with suspected links to the gang was arrested, in Ontario, Canada for his alleged involvement in attacks targeting critical infrastructure and large organisations.
  - The arrest came after similar action was taken in Ukraine, in October 2021.

### How to protect systems against the LockBit ransomware?

- While there are no fool-proof ways of protecting against ransomware attacks, organisations and individuals can take certain steps to increase resilience against such cyber threats.
- The use of strong passwords, with strong variations of special characters which are not easy to guess along with multi-factor authentication should be implemented.
  - This ensures the use of brute force will not be enough to compromise systems.
- **Organisations can also undertake training exercises** to educate employees on the use of phishing attacks and their identification.
- Old and unused user accounts should be deactivated and closed as they can become weak links in the security apparatus.
- Additionally, organisations and individuals should have an **understanding of cybersecurity threats** and vulnerable points that may be exploited by cybercriminals.

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## 7.7 CENTRAL GOVERNMENT HEALTH SCHEME

### Context

- Recently the Health Ministry to update the central government health scheme (CGHS) package pricing.

### Key Details

- Over 4.2 million registered beneficiaries can access subsidized treatment at private hospitals through the scheme.
- Over 1,670 private hospitals and 213 laboratories are currently empanelled under the CGHS, including prominent private chains such as Medanta, Fortis, Narayana, Apollo, Max, and Manipal Hospitals.
- Over 103 Ayush centres are also part of CGHS service.



### FACTLY

- In India 53.7% personnel do not have a medical license that are practicing allopathic medicine.
- Budget: Of all healthcare spending, only around 7% is spent on preventive healthcare, while more than 80% is spent on treatment and cure.
- 14% of the population of India suffers from mental illness.
- More than 80% of people in India do not seek any medical health checkup and help.
- Capital expenditure less than 0.06% of health expenditure.
- In India, at present we have only 3800 psychiatrists, despite the requirement of 13500 psychiatrists.

### About the scheme

<b>AIM</b>	<ul style="list-style-type: none"> <li>It is a welfare scheme that provides comprehensive healthcare facilities to the employees and pensioners of the Central Government and their dependents residing in CGHS-covered cities.</li> </ul>
<b>ESTABLISHED</b>	<ul style="list-style-type: none"> <li>The scheme was started in 1954 in Delhi.</li> </ul>
<b>OPERATES THROUGH</b>	<ul style="list-style-type: none"> <li>A network of wellness centres, polyclinics, general hospitals, and empanelled private hospitals across India.</li> </ul>
<b>ELIGIBILITY</b>	<ul style="list-style-type: none"> <li>All Central Govt. employees and their dependant family members residing in CGHS covered areas.</li> <li>Central Govt. Pensioners and their eligible family members getting pension from Central Civil Estimates, Sitting and Ex-Members of Parliament</li> <li>Ex-Governors &amp; Lt. Governors, Freedom Fighters</li> <li>Ex-Vice Presidents, Sitting and Ex-Judges of Supreme Court &amp; High Courts</li> <li>Employees and pensioners of certain autonomous organizations in Delhi</li> </ul>
<b>COVERAGE</b>	<ul style="list-style-type: none"> <li>The scheme is known for its wide range of healthcare services that cover various systems of medicine, including <u>allopathic, homeopathic, and Indian systems of medicine</u> such as <b>Ayurveda, Unani, Siddha, and Yoga</b>.</li> </ul>
<b>FUNDING</b>	<ul style="list-style-type: none"> <li>CGHS facilities are fully funded by <b>budgetary support from the ministry of health</b>, even if a beneficiary avails of treatment in an empanelled private hospital.</li> </ul>

### Facilities available under CGHS

- OPD Treatment including issue of medicines
- Specialist Consultation at Govt. Hospitals
- Hospitalization at Government and Empanelled Hospitals
- Investigations at Government and Empanelled Diagnostic Centres

- Pensioners and other identified beneficiaries have facility for cashless treatment in empanelled hospitals and diagnostic centres.
- Reimbursement of expenses for treatment under emergency in Private unrecognized hospitals under emergency.
- Reimbursement of expenses incurred for purchase of Hearing Aid, Artificial Limb, etc.

### Recent Changes in CGHS

- **OPD Consultation charges:** Recent changes include doubling outpatient department charges from ₹150 to ₹350.
- **IPD Consultation charges:** Raised inpatient department (IPD) consultation fees by ₹50, setting IPD rates at ₹350.
- **ICU charges:** ICU services are now set at ₹5,400 per day, including accommodation.
- **Room rent:** Room rents have been hiked 1.5-fold: ₹1,500 for general rooms, ₹3,000 for semi-private wards, and ₹4,500 for private rooms.

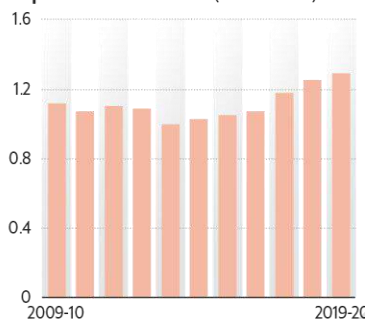
### Issues of CGHS

- Empanelled hospitals are reimbursed by the Union health ministry; however, a major problem is that there is a **delay in the payment to empanelled hospitals**.
- There is **no separate autonomous fund manager** for CGHS, which is a key feature of any self-sustaining health insurance scheme.
- Details of inflow and outflow of **funds at all levels is not available** and that raises questions about the planning process of the department in the **absence of such basic data**
- The scheme is also **plagued by staff shortages**. Out of 700 CGHS posts, more than 150 are vacant.
- Officials have many other responsibilities within the system and **cannot dedicate full time** to scheme oversight and management.
- There is **lack of robust management information systems** in the CGHS which compromises the ability of these schemes to purchase effectively, control costs, and measure performance.

## Health a low priority

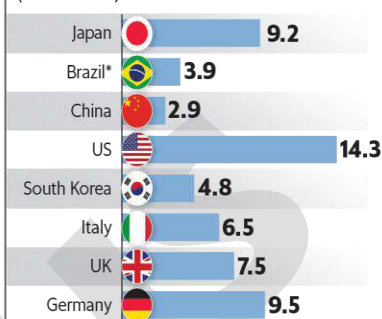
India's public health expenditure was just 1.29% of GDP in 2019-20. In 2018 too, the country lagged behind BRICs peers as well as developed nations.

India's (centre plus states) public expenditure on health (as % of GDP)



Source: National Health Profile 2019, Government of India; CARE Ratings' calculations

Public expenditure on health in 2018 (as % of GDP)



Source: OECD, Conta-Satélite de Saúde

\*For 2017

### Government initiatives related to Healthcare in India

#### The National Health Mission (NHM)

- It is a Centrally Sponsored Scheme launched in 2005. It envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs.
- The Pradhan Mantri National Dialysis Programme (PMNDP) was rolled out on 07th April 2016 as part of the National Health Mission (NHM) for the provision of free dialysis services to the poor. The programme has two components namely Hemodialysis (HD) services & Peritoneal dialysis (PD) services.

#### The Ayushman Bharat Digital Mission (ABDM)

- It aims to develop the backbone necessary to support the integrated digital health infrastructure of the country. It will bridge the existing gap among different stakeholders of the Healthcare ecosystem through digital highways.

#### Pradhan Mantri Jan Arogya Yojana (PMJAY)

- The scheme was launched in September 2018 and recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).

#### Janani Shishu Suraksha Karyakram (JSSK)

- The scheme is to benefit pregnant women who access Government health facilities for their delivery.

### Way forward

- There should be **proper regulation and monitoring** against all the malpractices prevalent in health area. Stringent laws and punishment should be there for all those who do unethical practices in this field.
- **Use of technology** can help a lot to reduce the cost as well as improving facilities in health area.
- **Overall help of community people** should be sought for providing health care to all because no programme can be successful without active involvement of community.
  - **For example:** Kerala is a good example for it that took help of educated youth and Panchayati Raj Institutions for implementing her health programmes.
- A **National Health Regulatory and Development Framework** needs to be made for improving the quality (for example registration of health practitioners), performance, equity, efficacy and accountability of healthcare delivery across the country.
- **Increase the Public-Private Partnerships** to increase the last-mile reach of healthcare.

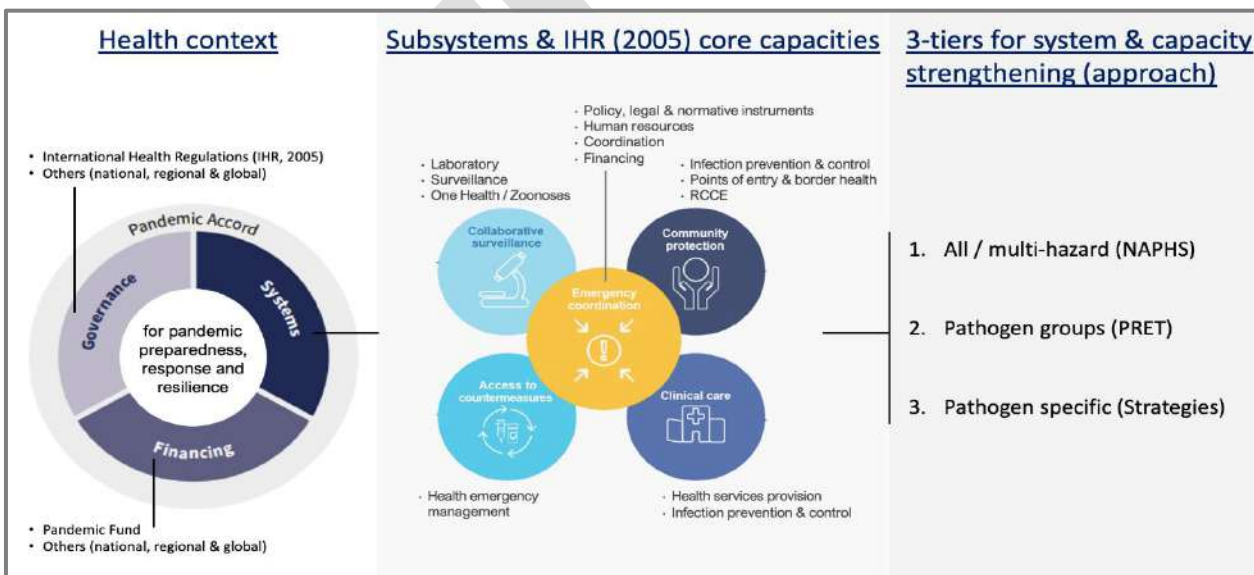
## 7.8 PRET INITIATIVE

### Context

- The World Health Organisation (WHO) has launched the Preparedness and Resilience for Emerging Threats (PRET) Initiative.

### Key Details

- The world has faced unprecedented challenges in the **past few years due to the COVID-19 pandemic** and other emerging infectious diseases.
- To prevent and respond to such threats, countries need to strengthen their preparedness and resilience capacities and capabilities, with the objectives **“Preparedness and Resilience for Emerging Threats (PRET) Initiative”** launched by the World Health Organization (WHO).



### About the initiative

AIM	<ul style="list-style-type: none"> <li>• It aims to provide <i>"guidance on integrated planning for responding to any respiratory pathogen such as influenza or coronaviruses."</i></li> </ul>
APPROACH	<ul style="list-style-type: none"> <li>• It is an <b>innovative approach</b> that recognizes that many systems, tools, and knowledge can be applied across different groups of pathogens based on</li> </ul>

	<p>their mode of transmission.</p> <ul style="list-style-type: none"> <li>• <b>For example</b>, respiratory pathogens such as <b>influenza, coronaviruses, and respiratory syncytial virus</b> share common features and require similar interventions for surveillance, diagnosis, treatment, and prevention.</li> </ul>
IMPLEMENTAION	<ul style="list-style-type: none"> <li>• The PRET Initiative is aligned with the <b>World Health Assembly</b> resolutions on strengthening preparedness for health emergencies.</li> <li>• PRET provides a platform for <b>national, regional and global stakeholders</b> to collaborate to strengthen preparedness.</li> </ul>
PLAN	<ul style="list-style-type: none"> <li>• It supports countries in achieving global targets for developing or updating their respiratory pathogen <b>pandemic plans by 2024</b>.</li> <li>• It contributes to the <b>broader goals of the International Health Regulations (2005) and the Universal Health Coverage agenda</b>.</li> </ul>

### Approach of PRET initiative

- The three-pronged approach of PRET includes:
  - Updating preparedness plans that affirm priority actions
  - Increase connectivity among stakeholders in pandemic preparedness planning through systematic coordination and cooperation and dedicate sustained investments and
  - Financing and monitoring of pandemic preparedness with a special focus on bridging the lacunes highlighted during the COVID-19 pandemic.



### Significance of the initiative

- PRET focuses on strengthening and sustaining preparedness systems and health system resilience; monitoring of capacity building efforts; and promoting a whole-of-government and whole-of-society approach for pandemic planning.
- As PRET modules are designed to be living documents, they will adapt to the direction set by Member States through the Pandemic Accord.

### PRET and other preparedness planning processes

- **PRET recognizes that there are three tiers of systems** and capacities relevant for pandemic preparedness: those that are cross-cutting for all or multi-hazard, those that are relevant for groups of pathogens, and those that are specific to a pathogen.
- **Among the many planning processes needed, WHO encourages countries** to develop **national action plans for health security (NAPHS)** to strengthen cross-cutting core capacities for **all/multi-hazard preparedness**.
- **Applying a disease-focused lens** to preparedness, PRET is synergistic with NAPHS.
- Together, **PRET and NAPHS should be reflected in national, regional and global investments** to strengthen preparedness.

- As new financing mechanisms for pandemic preparedness become available, such as the Pandemic Fund, articulating the cross-cutting and pathogen-focused systems and capacities that need to be strengthened and the gaps that need to be filled will help streamline resourcing.

### Pathogen-specific preparedness elements

- To support countries and partners to develop and update pandemic plans, PRET builds on and supersedes WHO guidance such as **Pandemic Influenza Risk Management**.
- Within pandemic plans that take the **new PRET integrated approach**, it is important to articulate the pathogen specific systems and capacities needed.
  - For respiratory pathogens examples include the specific medical countermeasures needed for **influenza or the specific public health and social measures needed for MERS coronavirus**.
- The pandemic plans also need to **align with existing pathogen specific frameworks and instruments**.
  - A key example is the **Pandemic Influenza Preparedness (PIP) Framework**, which requires countries to share influenza viruses with pandemic potential with the **Global Influenza Surveillance and Response System (GISRS)** and for manufacturers using GISRS to share benefits in return.
- The PRET approach offers **technical efficiency recognizing** the evolving landscape for governance, financing, and systems to prepare for emerging infectious disease threats.
- For each group of pathogens, **PRET enables us to prepare for both pathogens** with known pandemic potential such as influenza, and as yet unknown or 'Pathogen X,' which will require us to rapidly adjust existing systems and capacities for response.

## 7.9 SHORT TOPICS

### Artificial Meteor Showers

#### Context

- According to a report by The Independent, Tokyo-based ALE is set to launch the satellite in 2025 and it hopes to give people all over the world “the opportunity to view the world’s first live human-made meteor shower.”

#### Details

##### Sky Canvas Project

- It is the **world’s first artificial meteor** shower project and is designed to collect atmospheric data in the **mesosphere**, which is the **third layer of the atmosphere**.
- The Mesosphere is too low to be observed by satellites and too high for weather balloons or aircraft.
- Meteor showers are beautiful celestial events, peppering the sky with shooting stars.
- The Mesosphere is too low to be observed by satellites and too high for weather balloons or aircraft.
- **ALE plans** to do this by using a pressure-driven system of gas tanks that will shoot pellets at a speed of 8 kilometres per second.
- The satellite was initially scheduled to launch in 2020 but a malfunction in one of the satellites meant that the launch had to be delayed.

#### Facts

- **Meteors are chunks of rocks** and ice that are ejected from comets as they orbit the Sun.
- Around 30 meteor showers that are visible to observers on Earth occur every year and some of them have been observed for centuries.
- **For example**, the Perseids meteor shower, which usually happens every year in August, was first observed about 2,000 years ago and was recorded in Chinese annals.
- **ALE hopes to reproduce the effect of natural meteor** showers by using metal “shooting star” particles that are around 1 centimetre in size.

- These grains will be taken to a **low-Earth orbit about 400 kilometres** above the planet by small satellites.
- **Once the satellites' orbit stabilises**, they will release the particles. The particles will then travel around part of the planet before entering the atmosphere at an altitude of 60 to 80 kilometres.

## Slocum Gliders

### Context

- Indian National Centre for Ocean Information Services deploys two more deep sea gliders into Bay of Bengal to study climate change.

### About

- The Slocum Glider is a **uniquely mobile network component capable of moving to specific locations** and depths and occupying controlled spatial and temporal grids.
- Driven in a sawtooth vertical profile by variable buoyancy, the glider moves both horizontally and vertically.

### Features

- **The long-range and duration capabilities** of Slocum gliders make them ideally suited for subsurface sampling at the regional scale. ‘
- **Carrying a wide variety of sensors**, they can be programmed to patrol for weeks at a time, surfacing to transmit their data to shore while downloading new instructions at regular intervals, realizing a substantial cost savings compared to traditional surface ships.
- **The small relative cost and the ability to operate multiple vehicles** with minimal personnel and infrastructure will enable small fleets of gliders to study and map the dynamic (temporal and spatial) features of subsurface coastal waters around the clock and around the calendar.
- **The state-of-the-art gliders** are equipped with sensors to track temperature, salinity, chlorophyll, dissolved oxygen, PAR – photosynthetic active radiation in the sea water among others.
- The gliders have been deployed from the Ocean Research Vehicle ‘**Sagar Manjusha**’ of the **National Institute of Ocean Technology (NIOT)** off the Chennai coast outside of the EEZ - exclusive economic zone boundary.
- These gliders can go underwater up to a **depth of about 1,000 metres** and will surface four to five times a day,
- They have a potential for continuously giving data for the satellite to pick up and relay the same to the newly established ‘National Glider Operations Facility’ at INCOIS.
- They **run on lithium-ion battery** is they come with an extended battery life of nine months and more to cover both the north and south transect of the Bay of the Bengal.

## Uranium Isotope

### Context

- Physicists in Japan discovered a previously unknown isotope of uranium, with atomic number 92 and mass number 241, i.e. uranium-241.

<b>About:</b>	<ul style="list-style-type: none"> <li>• It has an <b>atomic number of 92</b> and a mass number of 241.</li> <li>• The researchers also calculated that uranium-241 likely has a half-life of just 40 minutes.</li> </ul>
<b>Findings:</b>	<ul style="list-style-type: none"> <li>• The research team noted that most of the isotopes they measured had never been measured before.</li> <li>• They also noted that one of them, uranium-241, had never been observed before and that it marks the <b>first time since 1979</b> that a <b>neutron-rich uranium isotope</b> has been discovered.</li> </ul>

	<ul style="list-style-type: none"> <li>The researchers also calculated that uranium-241 likely has a <b>half-life of just 40 minutes.</b></li> </ul>
<b>Significance:</b>	<ul style="list-style-type: none"> <li>The new isotope, <b>uranium-241, has 92 protons</b> (as all uranium isotopes do) and 149 neutrons, making it the <b>first new neutron-rich isotope</b> of uranium discovered since 1979.</li> </ul>
<b>Uranium</b>	<ul style="list-style-type: none"> <li>It is in the <b>class of elements in the periodic table</b> known as "actinides," which have proton counts <b>between 89 and 103.</b></li> <li>All actinides are radioactive, but uranium is one of the four most radioactive elements, alongside radium, polonium and thorium.</li> </ul>

## Tropospheric Emissions: Monitoring Of Pollution (TEMPO) Instrument

### Context

- NASA's high-resolution air pollution monitoring instrument TEMPO lifted atop a SpaceX Falcon 9 rocket.

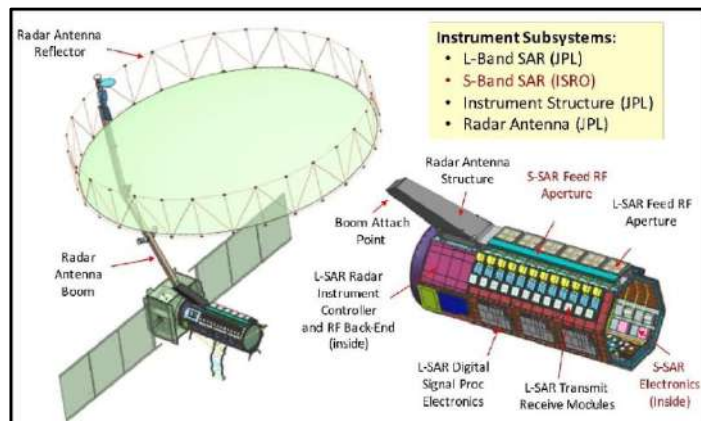
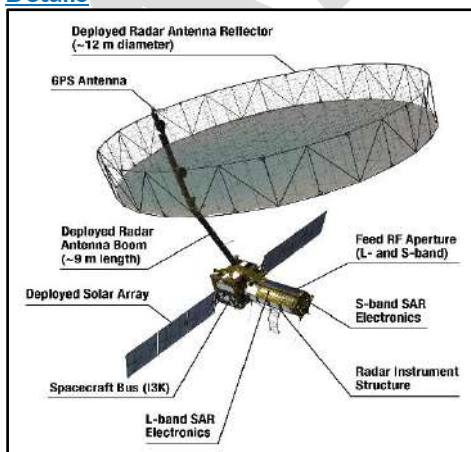
<b>About:</b>	<ul style="list-style-type: none"> <li>It is a payload on the satellite Intelsat 40E.</li> <li>The Tropospheric Emissions: Monitoring of Pollution (TEMPO) instrument is on its way to a geostationary orbit where it will monitor major air pollutants across North America.</li> </ul>
<b>Objective:</b>	<ul style="list-style-type: none"> <li>It will take important scientific observations, including that of ozone, nitrogen oxide, sulphur dioxide and formaldehyde levels.</li> </ul>
<b>Significance:</b>	<ul style="list-style-type: none"> <li>It will be the first space-based instrument that is capable of measuring air quality over North America hourly during the daytime with a resolution of several square miles.</li> </ul>
<b>Limit</b>	<ul style="list-style-type: none"> <li>The current limit is about 100 square miles, or about 258 square kilometres.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>Using TEMPO data, scientists will be able to study rush hour pollution, the potential for improved <b>air quality alerts</b>, the <b>impact of lightning on the ozone layer</b>, the movement of pollution from <b>forest fires and volcanoes</b> and even the effects of fertiliser application.</li> </ul>
<b>Ultimate Aim</b>	<ul style="list-style-type: none"> <li>The TEMPO mission is about more than just studying pollution – it's about improving life on Earth for all.</li> </ul>

## Nisar Satellite

### Context

- NISAR satellite to map Himalayas' seismic zones.

### Details



<b>Background</b>	<ul style="list-style-type: none"> <li>NISAR has been built by space agencies of the <b>US and India</b> under a partnership agreement signed in 2014.</li> </ul>
<b>Launch date</b>	<ul style="list-style-type: none"> <li>NISAR is expected to be launched in <b>January 2024</b> from <b>Satish Dhawan Space Centre</b> into a near-polar orbit.</li> </ul>
<b>Partnership</b>	<ul style="list-style-type: none"> <li>Jointly developed by the <b>National Aeronautics and Space Administration(NASA)</b> and the <b>Indian Space Research Organisation (ISRO)</b>.</li> </ul>
<b>Satellite</b>	<ul style="list-style-type: none"> <li>It is an <b>Earth observation satellite</b>.</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>The 2,800 kilograms satellite consists of <b>both L-band and S-band synthetic aperture radar (SAR) instruments</b>.</li> <li>It is a <b>dual-frequency imaging radar satellite</b>.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>The mission will help <b>study Earth's land and ice surfaces</b> in greater detail than ever before.</li> <li>It will spot warning <b>signs of natural disasters</b>, such as volcanic eruptions, earthquakes and landslides.</li> <li>The satellite will also <u>measure groundwater levels, track flow rates of glaciers and ice sheets, and monitor the planet's forest and agricultural regions</u>, which can improve our <b>understanding of carbon exchange</b>.</li> </ul>
<b>Duration</b>	<ul style="list-style-type: none"> <li>The satellite will operate for a <b>minimum of three years</b>.</li> </ul>
<b>Techniques</b>	<ul style="list-style-type: none"> <li>ISRO will use NISAR for a variety of purposes including agricultural mapping, and monitoring of glaciers in the <u>Himalayas, landslide-prone areas and changes in the coastline</u>.</li> </ul>
<b>Mapping</b>	<ul style="list-style-type: none"> <li>Map the entire globe in 12 days.</li> <li><b>NASA requires the L-band radar</b> for its global science operations for at least <b>three years</b>. Meanwhile, <b>ISRO will utilise the S-band radar</b> for a minimum of <b>five years</b>.</li> </ul>

## Crohn's Disease

### Context

- According to recent study how microbes in guts suggest new approach to treat inflammatory bowel diseases.

### Details:

#### About the disease:

- Crohn disease (CD) and ulcerative colitis (UC) are two conditions commonly referred to as **inflammatory bowel disease (IBD)**.
- They are **immunologically mediated inflammatory** diseases of the gastrointestinal tract.
- It is a chronic, or long-term condition that causes inflammation in the digestive tract.
- Causes:** It is not clear what causes Crohn's disease. Experts suggest that it may stem from an abnormal reaction of the immune system.
- Although it typically starts in **childhood or early adulthood**, Crohn's disease can develop at any age.
- Inflammation caused by Crohn's disease** can involve different areas of the digestive tract in different people, most commonly the small intestine.

**FACT-Crohn disease can affect any part of the gastrointestinal tract. About one-third of patients have small bowel involvement, especially the terminal ileum, another **20% have only colon involvement** and about **50% have involvement of both the colon and small bowel**.**

- Symptoms:** The most common symptoms of Crohn's disease are diarrhoea, cramping and pain in your abdomen, anaemia, altered appetite, and weight loss.



- **Treatment:** There is no cure and most patients experience bouts of remissions and relapse at unpredictable times. This disease leads to very poor quality of life.

## Tick-Borne Encephalitis

### Context

- As per an official statement by the UK Health Security Agency, 3 cases of probable or confirmed tick-borne encephalitis acquired in England since 2019.

### Details:

#### About the disease:

<b>Caused by</b>	<ul style="list-style-type: none"> <li>• It is caused by a <b>virus</b> which is a member of the family <b>Flaviviridae</b>.</li> </ul>
<b>Symptoms</b>	<ul style="list-style-type: none"> <li>• The symptoms are similar to meningitis, an illness that affects the brain and the bones of the spinal cord. <b>High fever with a headache</b>, neck stiffness, confusion or reduced consciousness.</li> </ul>
<b>Geographical distribution</b>	<ul style="list-style-type: none"> <li>• It is an important cause of viral infections of the central nervous system in eastern, central, northern and increasingly <b>western European countries</b>, and in northern <b>China, Mongolia, and the Russian Federation</b>.</li> </ul>
<b>Facts</b>	<ul style="list-style-type: none"> <li>• <b>Approximately 10 000–12 000 clinical cases</b> of tick-borne encephalitis are reported each year, but this figure is believed to be significantly lower than the actual total number of clinical cases.</li> <li>• While many people infected with tick-borne encephalitis (TBE) <b>virus do not develop any signs</b>, severe diseases can affect the brain.</li> </ul>
<b>Time period for the infection to persist</b>	<ul style="list-style-type: none"> <li>• For people with symptoms, the time from tick bite to feeling sick (incubation period) is usually about 7 to 14 days, but can range from about 4 to 28 days.</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• There are 4 widely used vaccines of assured quality available namely:</li> <li>• <b>FSME-Immun and Encepur:</b> Manufactured in Austria and Germany respectively, and based on European strains of the virus</li> <li>• <b>TBE-Moscow and EnceVir:</b> Manufactured in the Russian Federation and based on Far-Eastern strains.</li> </ul>

## Giant Magnetoresistance

### Context

- GMR-based devices are particularly used to sense magnetic fields.

#### Basic Facts about GMR

- GMR is the **result of the electrical resistance of a conductor being affected by magnetic fields in adjacent materials**.
- GMR-based devices are particularly used to **sense magnetic fields**.
- In their study, the **magnetoresistance in monolayer graphene at 27° C held between two layers of boron nitride increased by 110% under a field of 0.1 tesla**.

<b>About:</b>	<ul style="list-style-type: none"> <li>• Giant magnetoresistance (GMR) is a <b>quantum mechanical magnetoresistance effect</b> observed in thin <b>film structures</b> composed of alternating <b>ferromagnetic and nonmagnetic layers</b>.</li> </ul>
<b>Origin:</b>	<ul style="list-style-type: none"> <li>• GMR can be qualitatively understood using the <b>Mott model</b>, which was introduced <b>as early as 1936</b> to explain the sudden increase in resistivity of ferromagnetic metals as they are heated above the Curie temperature.</li> </ul>
<b>Types:</b>	<ul style="list-style-type: none"> <li>• <b>Multilayer GMR:</b> In multilayer GMR two or more ferromagnetic layers are</li> </ul>

	<p>separated by a very thin (about 1 nm) non-ferromagnetic spacer (e.g. Fe/Cr/Fe).</p> <ul style="list-style-type: none"> <li>• <b>Spin valve GMR</b></li> <li>• <b>Pseudo-spin GMR</b></li> <li>• <b>Granular GMR Granular:</b> GMR is an effect that occurs in solid precipitates of a magnetic material in a non-magnetic matrix.</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>• Automotive sensors, solid-state compasses and non-volatile magnetic memories.</li> <li>• The largest technological application of GMR is in the data storage industry.</li> </ul>
<b>Construction</b>	<div style="text-align: center;"> <p>The resistance is small when the magnetization is align in parallel.</p> <p>The resistance is large when the magnetization is align in nonparallel.</p> <p><b>Giant Magnetoresistor</b></p> </div> <ul style="list-style-type: none"> <li>• <b>Extraordinary Magnetoresistance</b> – In this effect, the resistance of the metal is high in the absence of magnetic field and low in the presence of a field.</li> <li>• <b>Tunnel Magneto Resistor</b> – The current will flow from the one ferromagnetic electrode through the insulator. The magnitude of current flows through the tunnel depends on the direction of magnetization.</li> </ul>
<b>Award</b>	<ul style="list-style-type: none"> <li>• The <b>2007 Nobel Prize in physics</b> was awarded to <b>Albert Fert and Peter Grünberg</b> for the <b>discovery of GMR</b>.</li> </ul>

## Bioluminescence

### Context

- Visakhapatnam beaches are glowing due to a phenomenon called bioluminescence.

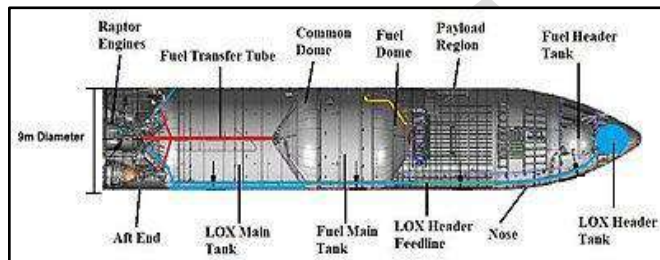
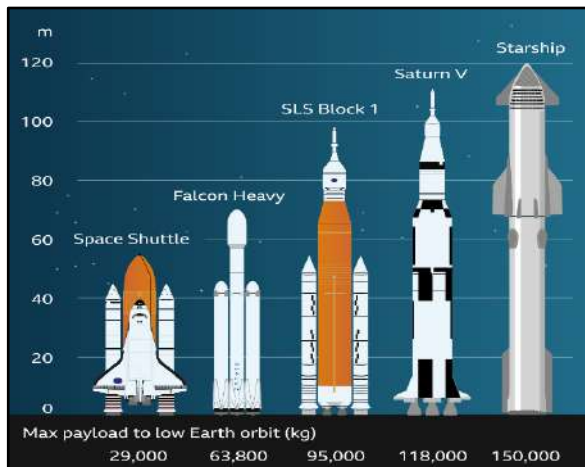
<b>About</b>	<ul style="list-style-type: none"> <li>• is the production and <b>emission of light by living organisms</b>.</li> <li>• It is light produced by a chemical reaction within a living organism. It is a form of chemiluminescence.</li> </ul>
<b>Type</b>	<ul style="list-style-type: none"> <li>• It is a type of <b>chemiluminescence</b>, which is simply the term for a chemical reaction where light is produced.</li> <li>• (Bioluminescence is chemiluminescence that takes place inside a living organism.)</li> </ul>
<b>Functions</b>	<ul style="list-style-type: none"> <li>• While the <b>functions of bioluminescence</b> are <b>not known</b> for all animals, typically bioluminescence is used to <b>warn or evade predators</b>), to lure or detect prey, and for communication between members of the same species.</li> </ul>
<b>Prevalence</b>	<ul style="list-style-type: none"> <li>• It is found in many marine organisms: <b>bacteria, algae, jellyfish, worms, crustaceans, sea stars, fish,</b> and sharks to name just a few.</li> </ul>
<b>Example</b>	<ul style="list-style-type: none"> <li>• In fish alone, there are <b>about 1,500 known</b> species that luminesce.</li> <li>• In some cases, <b>animals take in bacteria</b> or other bioluminescent creatures to gain the ability to light up.</li> <li>• For example, the <b>Hawaiian bobtail squid</b> has a <b>special light organ</b> that is colonized by bioluminescent bacteria within hours of its birth.</li> </ul>

## Starship

### Context

- Recently, SpaceX launched an uncrewed test flight of its Starship cruise vessel from the Super Heavy rocket. However, the vehicle exploded when the upper-stage Starship failed to separate from the lower-stage Super Heavy.

### Details:



<b>About</b>	<ul style="list-style-type: none"> <li>Starship is a rocket and <b>spacecraft combination</b> that could ferry more than 100 people a time to the Red Planet (Mars).</li> <li>They represent the <b>next generation of SpaceX's launch systems</b>, designed to <b>carry both astronauts and cargo</b> to Earth's orbit, the Moon, Mars, and maybe even beyond.</li> </ul>
<b>Objective</b>	<ul style="list-style-type: none"> <li>It aims to use Starship to <b>establish a self-sustaining human settlement</b> on Mars.</li> <li>The ultimate goal is to enable humans to become a <b>multi-planetary species</b>.</li> <li>It also aims to make <b>Starship reusable</b>, reducing the cost of spaceflight and bringing down the price to a few million dollars per flight.</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>The Starship spacecraft will be <b>about 50 metres tall and 9 metres wide</b>.</li> <li>It will have a payload capacity of <b>between 100 tonnes and 150 tonnes</b>.</li> <li>The space vehicle consists of the <b>first-stage Super Heavy booster</b> and the <b>second-stage spacecraft</b> also named Starship.</li> <li>Both stages are powered by <b>Raptor rocket engines</b>, which burn <b>liquid oxygen and liquid methane propellants</b> in a highly complex but efficient full-flow staged combustion power cycle.</li> <li>Both are designed to be <b>fully reusable</b>, performing controlled landings on the launch tower and <b>reflow within hours</b>.</li> <li>Starship is designed to have a payload <b>capacity of 150 tonnes (330,000 lb) to low Earth orbit in a fully reusable configuration</b> and 250 t (550,000 lb) when expended.</li> </ul>
<b>Potential Applications</b>	<ul style="list-style-type: none"> <li>Starship's capability could enable large space telescopes such as the <b>Large Ultraviolet Optical Infrared Surveyor</b>, which <b>detects Earth-like exoplanets</b>.</li> <li>Starship is intended to be able to <b>land crews on Mars</b>.</li> <li>It will also play a key role in <b>Nasa's Artemis programme</b>, which aims to establish a long-term human presence on the Moon.</li> <li>Starship also plans to launch the second generation of SpaceX's Starlink satellites, which <b>deliver global high-speed internet</b>.</li> </ul>

## WEB 3.0

### Context

- India's major digital public infrastructure push and the large-scale deployment of Internet of Things in rural development projects offer major possibilities for deploying Web 3.0 in rural areas.

### Details:

	Web 1.0	Web 2.0	Web 3.0
Know as	Read-only web	Read-write or social web	Read-write-own
Timeline	From 1989 to 2005	From 2005 to present	Upcoming
Content	Content is owned by the creator only	Content is shared by creators and users	Content is consolidated by creators and users
Focus	More focus on companies	More focus on community	More focus on individuals
Earnings	Earnings is through page views	Earning is through cost per click	Earnings are obtained through user engagement
Advertise	Advertising is banner based	Advertising is interactive	Advertising is behavioral
User Data	User data was not focused	User data is controlled by central authorities	User data is personalized and decentralized without the use of central authority
Usage	Mostly visual, static web with no user-to-server communication	Mostly programmable web with improved user interaction	Linked data web with intelligent, web-based functionalities and applications
Examples	Examples are home pages and WebForms	Examples are blogs, wikis, and web applications	Examples are live streams, waves, and smart applications

<b>About</b>	<ul style="list-style-type: none"> <li>Web 3.0 is also known as the <b>read-write-execute web</b> and introduces the concept of <b>machine learning, artificial intelligence, and blockchain systems</b>.</li> <li>It is built upon the <b>core concepts of decentralization, openness and token-based economics</b>.</li> </ul>
<b>Previous versions</b>	<ul style="list-style-type: none"> <li><b>Web 1.0 is the earliest form of the internet</b> created by Tim Berners Lee in 1989 that existed between the years of 1991 to 2005.                             <ul style="list-style-type: none"> <li>Web 1.0 made the use of static HTML and displayed content using tables and frames.</li> </ul> </li> <li><b>Web 2.0 introduced the concept of blogging, and zooming, scrolling,</b> and manipulating content such as in Google Maps.                             <ul style="list-style-type: none"> <li>This form of the internet emphasised UGC, ease of use, participation and interactivity, and compatibility with other devices and systems.</li> </ul> </li> </ul>
<b>How it will work?</b>	<ul style="list-style-type: none"> <li><b>In Web 1.0 and 2.0, HTML</b> defined the layout and delivery of webpages. It will continue to be foundational in Web 3.0, but how it connects to data sources and where those data sources reside will probably be different.</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>Web 3.0 upholds the property of the '<b>semantic web,</b>' which is powered by <b>Artificial Intelligence (AI)</b>.</li> <li>Web 3.0 has been powered with <b>robust capability</b> on the <b>data analytics front</b>. Hence, it will create far better search engines.</li> </ul>

<b>Significance</b>	<ul style="list-style-type: none"> <li>• Web3 is <b>decentralised</b>, privacy-oriented, blockchain-driven and crypto-asset friendly.</li> <li>• Of the two variants, Web3 seeks to <b>radically transform</b> the way data is generated, monetised, shared and circulated.</li> <li>• It also <b>advocates decentralising data storage systems</b> from the single entity or an organisation.</li> </ul>
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**READ:** <https://www.iasgyan.in/daily-current-affairs/web-30>

## Seeds in Space

### Context

- The **International Atomic Energy Agency (IAEA)** and the **Food and Agriculture Organization (FAO)** have been speeding up research for almost 60 years to develop new climate-tolerant agricultural crop varieties.

<b>About</b>	<ul style="list-style-type: none"> <li>• This is the <b>first feasibility study of the FAO and IAEA</b> to determine the effect of <b>cosmic radiation, microgravity and extreme temperatures</b> on plant genome and biology, towards generating sufficient genetic variation for enhanced adaptation to climate change.</li> </ul>
<b>Launch from</b>	<ul style="list-style-type: none"> <li>• Launched from NASA's Wallops Flight Facility in Virginia, USA on 7 November 2022.</li> </ul>
<b>Seeds used</b>	<ul style="list-style-type: none"> <li>• <b>Arabidopsis and Sorghum</b> seeds.</li> </ul>
<b>Process/working</b>	<ul style="list-style-type: none"> <li>• The seeds will undergo a <b>phytosanitary import process</b> that is a standard requirement for the transport of plant material across country borders to minimize the risk of introducing new pests, before final arrival at the laboratories.</li> </ul>
<b>About Arabidopsis</b>	<ul style="list-style-type: none"> <li>• Arabidopsis, a type of cress that is easy and inexpensive to grow and produces many seeds, will be tested for <b>tolerance to drought, salt and heat</b>.</li> </ul>
<b>About Sorghum</b>	<ul style="list-style-type: none"> <li>• Sorghum, a <b>nutrient-packed cereal grain</b> that can grow on arid lands and is <b>resilient to changes in climate</b>, will be tested for desirable traits for climate change resilience.</li> </ul>
<b>Significance</b>	<ul style="list-style-type: none"> <li>• In both crop species, <b>DNA will be extracted and sequenced</b>, to compare the changes between the seeds that were irradiated in a laboratory, those that were positioned inside the ISS, and those that were positioned outside the ISS and received the full exposure to cosmic radiation, microgravity and extreme temperatures.</li> <li>• These comparisons, together with the comparative analysis of plant biology, will help to <b>understand whether harsh space conditions</b> have a <b>uniquely valuable effect</b> for crop improvement and could <b>potentially benefit people on Earth</b>.</li> </ul>

#### About FAO

- The **Food and Agriculture Organization of the United Nations (FAO)** is a specialized agency of the **United Nations** that leads international efforts to defeat hunger and improve nutrition and food security.
- FAO is composed of **197 member states**.
- It is headquartered in **Rome, Italy**.

#### About IAEA

- In **1957 IAEA was created** in response to rapid advancement and diverse uses of nuclear technology
- This **"Atoms for Peace"** organization **established in dependently from United Nations**, through its own Statute that defines its structure and functions.
- However, This **autonomous organisation** reports to both United Nations General Assembly and Security Council
- IAEA has its headquarters in **Vienna, Austria**.

## Multiple Sclerosis

### About the disease

<b>About</b>	<ul style="list-style-type: none"> <li>It is a <b>chronic autoimmune disease</b> that affects the <b>central nervous system (CNS)</b>.</li> <li>When a person has an autoimmune disease, the immune system attacks healthy tissue, just as it might attack a virus or bacteria.</li> </ul>
<b>Symptoms</b>	<ul style="list-style-type: none"> <li>Symptoms can range from <b>muscle weakness to vision loss</b>. They tend to worsen during flares and improve during times of remission.</li> </ul>
<b>Cause</b>	<ul style="list-style-type: none"> <li><b>Age:</b> Most people receive a diagnosis between the ages of 20 and 40 years.</li> <li><b>Genetic factors:</b> Susceptibility may pass down in the genes, but scientists believe an environmental trigger is also necessary for MS to develop, even in people with specific genetic features.</li> <li><b>Smoking:</b> People who smoke appear to be more likely to develop MS. They also tend to have more lesions and brain shrinkage than non-smokers.</li> </ul>
<b>Types</b>	<ul style="list-style-type: none"> <li><b>Clinically isolated syndrome (CIS):</b> This is a single, first episode, with symptoms lasting at least 24 hours.                             <ul style="list-style-type: none"> <li>If another episode occurs at a later date, a doctor might diagnose relapse-remitting MS.</li> </ul> </li> <li><b>Relapse-remitting MS (RRMS):</b> This is the most common form. Around 85% of people with MS are initially diagnosed with RRMS.                             <ul style="list-style-type: none"> <li>RRMS involves episodes of new or increasing symptoms, followed by periods of remission, during which symptoms go away partially or totally.</li> </ul> </li> <li><b>Primary progressive MS (PPMS):</b> Symptoms worsen progressively, without early relapses or remissions.                             <ul style="list-style-type: none"> <li>Some people may experience times of stability and periods when symptoms worsen and then get better. Around 15% of people with MS have PPMS.</li> </ul> </li> <li><b>Secondary progressive MS (SPMS):</b> At first, people will experience episodes of relapse and remission, but then the disease will start to progress steadily.</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>There is <b>no cure for MS</b>, but treatment is available that can slow the progression of the disease, reduce the number and severity of relapses, and relieve symptoms.</li> </ul>

### 7. 10 2 MAINS QUESTIONS & 10 MCQs

**Q1. Discuss different types of cybercrimes and measures required to be taken to fight the menace. (10 marks)**

**Answer:**

- Cybercrime is defined as a crime where a computer is the object of the crime or is used as a tool to commit an offense. A cybercriminal may use a device to access a user's personal information, confidential business information, government information, or disable a device.

**Different types of cybercrimes:**

- DDoS Attacks:** These are used to make an online service unavailable and take the

network down by overwhelming the site with traffic from a variety of sources

- Botnets:** Botnets are networks from compromised computers that are controlled externally by remote hackers.
- Identity Theft:** This cybercrime occurs when a criminal gains access to a user's personal information to steal funds, access confidential information, or participate in tax or health insurance fraud.
- Cyberstalking:** This kind of cybercrime involves online harassment where the user is subjected to a plethora of online messages and emails.

- **Social Engineering:** Social engineering involves criminals making direct contact with you usually by phone or email.

#### **Measures required to be taken:**

- **Keep social media private:** Be sure that your social networking profiles (Facebook, Twitter, YouTube, etc.) are set to be private.
- **Protect your storage data:** Protect your data by using encryption for your important diplomatic files such as related to financial and taxes.
- **Securing your Phones:** Many people are not knowing that their mobile devices are also unsafe for malicious software, such as computer viruses and hackers.
- **Protect your computer with security software:** There are many types of security software that are necessary for basic online security.
- By taking these and other measures, governments can help to create a safer online environment and reduce the incidence of cybercrimes.

**Q2. "Besides being a moral imperative of a Welfare State, primary health structure is a necessary precondition for sustainable development." In this context discuss about the central government health scheme.**

#### **Answer:**

- It is a welfare scheme that provides comprehensive healthcare facilities to the employees and pensioners of the Central Government and their dependents residing in CGHS-covered cities. It covers allopathic, homoeopathic, ayurvedic, unani, siddha and yoga systems of medicine, as well as dental and eye care.

#### **Benefits under CGHS**

- CGHS beneficiaries can avail of services such as consultation, medicines, investigations, surgeries, dental care, ayurveda, homoeopathy, yoga, and naturopathy.
- CGHS beneficiaries can also book online appointments, apply for plastic cards, view their dashboard, lodge grievances, and access

teleconsultation services through the CGHS website.

- CGHS also issues permissions and registrations for various medical procedures and treatments. CGHS charges a monthly contribution from its beneficiaries based on their pay level and entitlement.

#### **Problems of CGHS:**

- Many CGHS empanelled Hospitals including multi speciality hospitals have withdrawn from the empanelment on the ground that the Govt is deliberately not revising the rates of various procedures for years together and not clearing their dues indefinitely.
- These Hospitals are now insisting the Pensioners to pay the amount in advance for treatment and then get it reimbursed. Where the Pensioners will go for Rs. 2 lacs and 5 lacs at a time.
- The authorities sitting in Health Ministry and CGHS are so insensitive they don't bother for the Hospitals leaving CGHS and no new Hospitals coming forward for empanelment.
- Recent Instructions of CGHS to cap price of implants at 60% of MRP and provide 20% discount on medicines and consumables have further irked the CGHS empanelled Hospitals.
- Shortage of Doctors, Specialists, Paramedical staff in Wellness Centres.
- The CGHS treatment rates should be revised once in 5 years, taking in to account the inflation rate, Cashless treatment facilities should be ensured in all hospitals, Government should bear 100% of the medical expenditure of employees and Pensioners as directed by Supreme Court several times.

**Q3. Consider the following statements with respect to the Computer Emergency Response Team (CERT-in):**

1. The Indian Computer Emergency Response Team (CERT-In) is an office within the Ministry of defence.
2. It is the nodal agency to deal with cyber security threats like hacking and phishing.
3. It does not have an overlapping responsibility with any other organization.

Which of the above given statements is/are correct?

A. 2 only

B. 1,2 and 3

C. 1 and 2 only

D. 1 and 3 only

Answer: A

- The Indian Computer Emergency Response Team (CERT-In) is an office within the Ministry of Electronics and Information Technology. **Hence statement 1 is incorrect.**
- It is the nodal agency to deal with cyber security threats like hacking and phishing. **Hence statement 2 is correct.**
- CERT-IN has overlapping responsibilities with other agencies such as;
- National Critical Information Infrastructure Protection Centre (NCIIPC) which is under the National Technical Research Organisation (NTRO) that comes under the Prime Minister's Office
- The National Disaster Management Authority (NDMA) is under the Ministry of Home Affairs. **Hence statement 3 is incorrect.**

**Q4. With regard to artificial meteor showers, consider the Following statements:**

1. The Sky canvas project is designed to collect atmospheric data in the troposphere.
2. It plans to do this by using a pressure-driven system of gas tanks that will shoot pellets at a speed of 8 kilometres per second.
3. It hopes to reproduce the effect of natural meteor showers by using metal "shooting star" particles.

Which of the above given statements is/are correct?

A. 2 only

B. 1 and 3 only

C. 2 and 3 only

D. 1, 2 and 3

Answer: C

- The company is set to launch the satellite in 2025 and it hopes to give people all over the world "the opportunity to view the world's first live human-made meteor shower.
- The project is called Sky Canvas and it is designed to collect atmospheric data in the mesosphere, which is the third layer of the atmosphere. **The Mesosphere** is too low to be observed by satellites and too high for weather balloons or aircraft. **Hence statement 1 is incorrect.**

- ALE plans to do this by using a pressure-driven system of gas tanks that will shoot pellets at a speed of 8 kilometres per second. **Hence statement 2 is correct.**
- ALE hopes to reproduce the effect of natural meteor showers by using metal "shooting star" particles that are around 1 centimetre in size. **Hence statement 3 is correct.**

**Q5. In India, why are some nuclear reactors kept under "IAEA safeguards" while others are not? (PYQ 2020)**

A. Some use uranium and others use thorium

B. Some use imported uranium and others use domestic supplies

C. Some are operated by foreign enterprises and others are operated by domestic enterprises

D. Some are State-owned and others are privately-owned.

Answer: B

- India has a largely indigenous nuclear power programme.
- The Indian government is committed to growing its nuclear power capacity as part of its massive infrastructure development programme.
- The government has set ambitious targets to grow nuclear capacity.
- Because India is outside the Nuclear Non-Proliferation Treaty due to its weapons programme, it was for 34 years largely excluded from trade in nuclear plant and materials, which hampered its development of civil nuclear energy until 2009.
- Due to earlier trade bans and **lack of indigenous uranium**, India has uniquely been developing a nuclear fuel cycle to exploit its reserves of thorium.
- Since 2010, a fundamental incompatibility between India's civil liability law and international conventions limits foreign technology provision.

**Q6. Consider the following statements NISAR satellite:**

1. It is a joint project between NASA and European Space Agency to co-develop and launch a dual-frequency synthetic aperture radar on an Earth observation satellite.
2. It will be placed in sun-synchronous orbit for five years.

Which of the above given statements is/are correct?

A. 1 only

B. 2 only



C. Both 1 and 2

D. Neither 1 nor 2

Answer: D

- The NASA-ISRO Synthetic Aperture Radar (NISAR) mission is a joint project between NASA and ISRO to co-develop and launch a dual-frequency synthetic aperture radar on an Earth observation satellite. The satellite will be the first radar imaging satellite to use dual frequencies. Hence statement 1 is correct.
- The orbit will be a Sun-synchronous, dawn-to-dusk type. The planned mission life is three years. Hence statement 2 is incorrect.

**Q7. With reference to agriculture in India, how can the technique of 'genome sequencing', often seen in the news, be used in the immediate future? (PYQ 2017)**

1. Genome sequencing can be used to identify genetic markers for disease resistance and drought tolerance in various crop plants.
2. This technique helps in reducing the time required to develop new varieties of crop plants.
3. It can be used to decipher the host-pathogen relationships in crops.

Select the correct option using the code given below:

- A. 1 and 3 only  
B. 1 only  
C. 2 and 3 only  
D. 1,2 and 3

Answer: D

- Genome sequencing can be used to identify genetic markers for disease resistance and drought tolerance in various crop plants.
- This technique helps in reducing the time required to develop new varieties of crop plants.
- It can be used to decipher the host-pathogen relationships in crops.
- Hence, All statements are correct.

**Q8. What is the main purpose of the PRET Initiative?**

- A. To guide specific diseases such as influenza or coronaviruses
- B. To provide guidance on integrated planning for responding to any respiratory pathogen

- C. To guide the development of vaccines and treatments for emerging threats
- D. To guide coordinating humanitarian assistance for affected populations

Answer: B

- The PRET Initiative is an innovative approach to improving disease pandemic preparedness that recognizes that the same systems, capacities, knowledge, and tools can be leveraged and applied for groups of pathogens based on their mode of transmission (respiratory, vector-borne, foodborne etc.). It incorporates the latest tools and approaches for shared learning and collective action established during the COVID-19 pandemic and other recent public health emergencies.

**Q9. With reference to Central Government Health Scheme (CGHS) consider the following statements:**

1. It is a welfare scheme that provides comprehensive healthcare facilities to the employees and pensioners of the Central Government.
2. Sitting Judges of Supreme Court and High Court are covered under the scheme.
3. Indian system of medicine has been excluded in providing healthcare through CGHS.

Which of the above given statements is/are correct?

- A. 1 and 2 only  
B. 1 and 3 only  
C. 2 and 3 only  
D. 1, 2 and 3

Answer: A

- It is a welfare scheme that provides comprehensive healthcare facilities to the employees and pensioners of the Central Government and their dependents residing in CGHS-covered cities. Hence statement 1 is correct.
- Sitting Judges of Supreme Court and High Court are covered under the scheme. Hence statement 2 is correct.
- CGHS includes Allopathic, Homoeopathic and Indian system of medicine (AYUSH). Hence statement 3 is incorrect.

**Q10. Consider the following statements Crohn's Disease:**

1. It is a type of inflammatory bowel disease.

2. There's no known cure for and therapies for the disease.

Which of the above given statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

- Crohn's Disease is a type of inflammatory bowel disease (IBD). Hence statement 1 is correct.
- There's no known cure for Crohn's disease, but therapies can greatly reduce its signs and symptoms. Hence statement 2 is incorrect.

**Q11. Consider the following statements Tick-borne encephalitis:**

1. It is infection is caused by a fungus which is a member of the family.
2. There are no signs for the detection of the disease.

Which of the above given statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: B

- This infection is caused by a virus which is a member of the family. The virus can spread to people through eating or

drinking raw milk or cheese from infected goats, sheep, or cows. Hence statement 1 is incorrect.

- While many people infected with tick-borne encephalitis (TBE) virus do not develop any signs, severe diseases can affect the brain.". Hence statement 2 is correct.

**Q12. With reference to Multiple sclerosis, consider the following statements:**

1. It occurs when the immune system attacks the nerve fibres and myelin sheathing in the brain and spinal cord.
2. The vulnerable group of multiple sclerosis are elderly people, especially the persons aged above 70 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

Answer: A

- It occurs when the immune system attacks the nerve fibres and myelin sheathing (a fatty substance which surrounds/insulates healthy nerve fibres) in the brain and spinal cord. Hence statement 1 is correct.
- It affects young individuals between the ages of 20 to 40 years but may also occur in children and adolescents. Females are affected more by this disease than males. Hence statement 2 is incorrect.



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## 8. CULTURE & HISTORY

### 8.1 BIDRIWARA ART

#### Context

- Rasheed Ahmed Quadri, a well-known Bidriware artist from Karnataka, has received the Padma Shri Award 2023.

#### About

- Bidriware is a **metal handcraft** from the southern Indian city of Bidar.
- The term "bidriware" comes from the town of Bidar, which is still the main production centre.
- It was **developed during the reign of the Bahmani Sultans** in the 14th century C.E.
- It has been **recognized under the Geographical Indication (GI) Tag**.

#### Origin

- The origin of bidriware is commonly linked to the Bahmani sultans who ruled Bidar in the 14th-15th century.
- **Persian art influenced Bidriware** processes and design.
- It was **first introduced to India in the shape of kitchenware by the Sufi saint Khwaja Moinuddin Hasan Chisti**.
- The art form emerged in the kingdom as a result of a blending of Turkish, Persian, and Arabic influences with local styles, resulting in the birth of a distinct style.
- Sultan Ahmed Shah Bahmani recruited Iranian craftsmen Abdullah bin Kaiser to work on beautifying the royal palaces and courts.

#### Process

- **Bidriware is produced in 8 steps:** Moulding, Smoothing with a file, designing with hand tools, engraving with a tool and hammer, Pure silver inlay, smoothing again, Polishing, and finally oxidising with soil and ammonium chloride.
- **A silver inlay is commonly used** because it mixes well with black metal, however, copper

or precious metals such as gold are also used in some cases.

- The most popular motifs are floral or geometrical, with influences from Persia, Southern India, and, later, Europe.
- The **designs are mainly traditional, with vegetation, flowers, and occasionally human figures**.

#### Material

- Bidriware is **made from cast white brass (copper-zinc)**.
- Traditionally, the artisans use soil extracted from the grounds of a 15th-century fort in Bidar; the soil does not absorb sunshine or rain for years, giving the soil its desired qualities.

#### Region

- Bidar in Karnataka and Hyderabad in Telangana are the most active places.
- This art is **also practised in a few other parts of the country** like Purnia in Bihar, Lucknow in Uttar Pradesh and Murshidabad in West Bengal.
- Aurangabad in Maharashtra is an important centre, the Nizam of Hyderabad introduced the Bidri art to Aurangabad as it was part of Nizam's reign at the time.



### About Bahmani Sultanate

- The Bahmani Sultanate was the first autonomous Muslim empire in Deccan. It was founded by Ala-ud-Din Bahman Shah in 1347.
- The Vijayanagara Empire and the Bahmani Empire fought continuously for control over the Godavari-basin, Tungabhadra Doab, and Marathwada area; military conflicts were nearly a common sight and lasted as long as these kingdoms existed.
- The Persian language, culture, and literature were favoured by the Bahmani Sultans.
- The architecture was highly influenced by Persian architecture. They invited architects from Persia, Turkey and Arabia.
- Muhammad Adil Shah constructed Gol Ghumaz, famed for its "Whispering Gallery."
- Ibrahim Adil Shah adopted 'Dakhini' as the court language instead of Persian.

## 8.2 BASHOLI PAINTINGS

### Context

- Basohli Painting from Kathua district in Jammu and Kashmir has obtained the Geographical Indication (GI) Tag.

### About

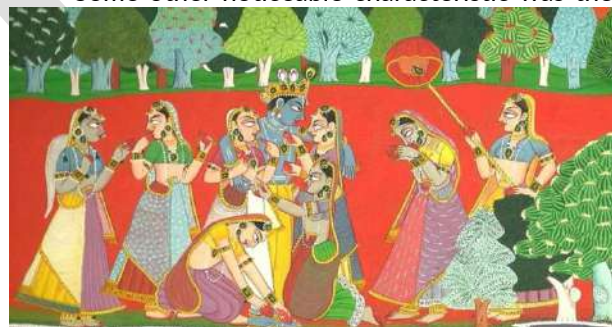
- **Basohli paintings are recognized as the original school of Pahari paintings**, and by the mid-eighteenth century, they had evolved into the far more popular Kangra paintings style.
- It is characterized by its **bold use of primary colours and unique facial composition**.
- The first paintings in this style **have been traced to Raja Kirpal Pal's period (1678–93)**.

### Origin

- In the hilly areas of Basohli, Kulu, Guler, Kangra, Jammu, and Garhwal between the 17th and 19th centuries, the Pahari School of Art emerged.
- Basohli was the first Pahari school centre, with its vibrant and colourful design.
- Basohli painting **developed a unique set of miniature paintings that saw a blend of mythology and traditional folk art**.
- Basohli paintings flourished under Sangram Pal (1635-1673) and later Kirpal Pal (1678-1693).

### Features

- Under Sangram Pal, Vaishnavism was adopted, and thus the early paintings, particularly the Rasmanjari series, **feature Krishna as the centre**.
- A clever fusion of mythology and love gave the paintings an extraordinary attraction.
- Some other noticeable characteristic was the



facial features, which included a **large nose and lotus-shaped eyes**.

- **Depiction of flora was common in Basohli paintings**.
- The use of bright and bold colours like red, yellow, and blue in the borders, as well as for the flat background.

### GI Tag

- India, as a member of the World Trade Organization (WTO), enacted the Geographical Indications of Goods (Registration & Protection) Act, of 1999 which came into force with effect in September 2003.
- Geographical Indications (GIs) products include agricultural, natural, manufactured goods, foodstuffs and handicrafts.
- GIs are the products that are originated or manufactured in a specific territory, region, or locality.
- To function as a GI, a sign must identify a product as originating in a given place. EX- Darjeeling tea.
- In 2004, Darjeeling Tea was the first Indian product to get the geographical indication tag.
- Geographical Indication tags in India are valid for 10 years following which they can be renewed.
- The Union Minister of Commerce and Industry launched the logo and tagline for the Geographical Indications (GI) of India.

## 8.3 JYOTIBA PHULE

### Context

- On the occasion of the birth anniversary of Mahatma Jyotiba Phule (11th April), the Prime Minister paid tribute to him. He also highlighted his significant contribution to social justice and strengthening the oppressed.

### About

- He was a **social activist, anti-caste social reformer**, businessman, and writer from Maharashtra.
- He was born into a family that **belonged to the Mali caste, which was considered an inferior caste by the Brahmins.**
- **He married Savitribai Phule** at the age of 13, who became his partner in his social and educational work.
- He was deeply **influenced by the ideas of Thomas Paine**, a British political activist and philosopher who advocated for human rights and democracy.
- He was honoured with the **title of Mahatma (great soul) by social reformer Vithalrao Krishnaji Vandekar** in 1888 for his selfless service to humanity.

### Ideology

- He **criticized the caste system as a form of slavery and denounced the Vedas, Puranas, and Manu Smriti.**

- He **advocated for a universal religion of love and justice.**
- He challenged the supremacy of the Brahmins and fought for the rights of the oppressed castes and women.
- He believed that education was the key to the emancipation and empowerment of the marginalized sections of society.

### Important Contribution

- **He and his wife Savitribai Phule started the first school for girls in India in 1848 in Pune.**
- They also **started an orphanage for children from different castes and religions.**
- He wrote several books and pamphlets in Marathi, such as Tiritiya Ratna (1855), Powada: Chatrapati Shivajiraje Bhosle Yancha (1869), Shetkarayacha Aasud (1883), and Gulamgiri (1873).
- **In Gulamgiri, he compared the plight of the lower castes in India to that of the African slaves in America.**
- **He founded the Satyashodhak Samaj (Society of Truth Seekers) in 1873**, which aimed to create a casteless and egalitarian society based on human dignity and rationality.
  - **The members of this society took an oath to renounce caste distinctions and treat everyone as equal.**

## 8.4 WORLD HERITAGE DAY

### Context

- The International Day for Monuments and Sites, often known as World Heritage Day, is observed on April 18th.

### Details

#### About

- World Heritage Day is an annual celebration of the cultural and natural heritage of humanity.
- It is observed on April 18th every year and aims to raise awareness and appreciation of the diversity and value of our shared heritage.
- The concept of World Heritage was born in 1972 when **UNESCO adopted the Convention Concerning the Protection of the World Cultural and Natural Heritage.**
  - The Convention recognizes that some places on Earth are of outstanding universal significance and deserve to be protected for the benefit of present and future generations.

#### World Heritage Day 2023 Theme

- The **Theme of 2023 is "Heritage Changes."**
- This theme addresses climate action and its relationship to cultural heritage.
- It also emphasises the significance of cultural heritage in assisting disadvantaged communities in climate action and responding to the United Nations Decade of Action.

### World Heritage Sites

- UNESCO World Heritage Sites are places of outstanding cultural or natural importance that are recognized and protected by the United Nations Educational, Scientific and Cultural Organization (UNESCO).
- There are currently 1,121 World Heritage Sites in 167 countries, covering a variety of categories such as cultural landscapes, historic cities, natural wonders, archaeological

sites, religious monuments and industrial heritage.

- The World Heritage Convention, adopted by UNESCO in 1972, defines the types of sites that can be considered for inscription as cultural, natural or mixed.
  - Cultural heritage sites are those that represent works of human creativity or bear testimony to cultural traditions or civilizations.
  - Natural heritage sites are those that contain outstanding physical, biological or geological features or processes, or habitats of threatened species.
  - Mixed heritage sites are those that have both cultural and natural values.

#### Criteria

- The Convention also establishes a set of 10 criteria for assessing the outstanding universal value of potential World Heritage Sites.
- The criteria are regularly revised by the World Heritage Committee to reflect the evolution of the World Heritage concept itself.
- To be inscribed on the World Heritage List, a site must meet at least one of the 10 criteria and demonstrate that it has adequate protection and management mechanisms in place to ensure its safeguarding for present and future generations.

### World Heritage Sites in India

- **India has 40 World Heritage Sites (WHS)**, recognized by UNESCO for their outstanding universal value.
- These sites include monuments, temples, forts, caves, national parks, and more.
- 40th WHS in India: Dholavira, Harappan City in the Rann of Kutchh, becomes India's 40th UNESCO World Heritage Site.



## 8.5 AMBEDKAR CIRCUIT

### Context

- On April 14, the government launched the first Ambedkar Circuit tourist train, which will travel to significant destinations related to B.R. Ambedkar's life as well as key Buddhist heritage sites.

### Details

- According to Union Minister for Culture and Tourism, the "Bharat Gaurav Tourist Train" will provide all passengers with an insight into

the life of Bharat Ratna Baba Saheb Ambedkar.

- The 'Bharat Gaurav Tourist Train' is part of the Dekho Apna Desh project, which is a cooperative effort of the Ministries of Tourism and Railways to promote domestic tourism.
- The eight-day special journey will include stops at significant locations linked with Dr Ambedkar's life, such as New Delhi, Mhow, and Nagpur, as well as sacred Buddhist sites in Sanchi, Sarnath, Gaya, Rajgir, and Nalanda.

<b>Bharat Gaurav Scheme</b>	
<b>About</b>	<ul style="list-style-type: none"> <li>The Ministry of Railways introduced the Bharat Gaurav Trains policy in 2021 to <b>promote India's rich cultural history and amazing historical landmarks through theme-based tourism circuit trains.</b></li> <li>No Funds from the Ministry, because it is built on a revenue-generating mechanism.</li> <li>These trains won't run on a regular schedule like ordinary trains; instead, operated on theme-based circuits by both private players and the IRCTC.</li> <li>Anyone, including societies, trusts, coalitions, and state governments, can apply to take these trains and run them on theme tourism circuits.</li> </ul>
<b>Key Features</b>	<ul style="list-style-type: none"> <li>The <b>service provider would be allowed to choose a theme</b>, such as Guru Kripa trains for visiting key Sikh cultural sites, Ramayana trains for visiting areas associated with Lord Shri Ram, and so on.</li> <li>Service Provider to provide offers with an all-inclusive tourist package, including train travel, hotel accommodations, sightseeing arrangements, visits to historical/heritage sites, tour guides, and so on.</li> <li><b>Operators have complete control over package pricing</b> based on the degree of services provided.</li> <li>The operators are free to design/furnish the interiors of the coaches in accordance with the Theme.</li> </ul>

## Ambedkar Circuit

### About

- The circuit **covers five states:** Maharashtra, Madhya Pradesh, Uttar Pradesh, Bihar and Delhi.
- It aims to showcase the historical and cultural significance of these places, as well as to

inspire visitors with the values and vision of Dr Ambedkar.

- It provides an opportunity for tourists to learn about the diverse aspects of Indian society and culture, such as Buddhism, Dalit literature, constitutionalism and democracy.

### Places included in the Ambedkar Circuit

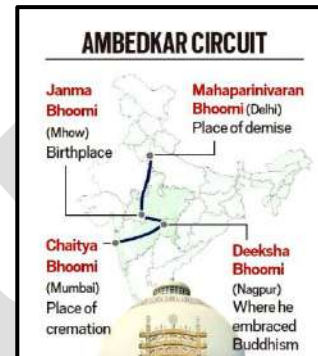
<b>Janma Bhoomi</b>	<ul style="list-style-type: none"> <li>This is where Ambedkar was born on April 14, 1891, in Mhow, a cantonment town in Madhya Pradesh.</li> <li>Ambedkar belonged to a Dalit family and faced discrimination and oppression from an early age.</li> <li>He overcame many challenges and hardships to pursue his education and become a scholar, lawyer, economist, and social reformer.</li> </ul>
<b>Deeksha Bhoomi</b>	<ul style="list-style-type: none"> <li>This is where Ambedkar converted to Buddhism along with thousands of his followers on October 14, 1956, in Nagpur, Maharashtra.</li> <li>He chose Buddhism as a way of rejecting the caste system and embracing a religion of equality, compassion, and human dignity.</li> <li>He also wrote "The Buddha and His Dhamma", a book on Buddhist philosophy and practice.</li> </ul>
<b>Mahaparinirvan Bhoomi</b>	<ul style="list-style-type: none"> <li>This is where Ambedkar passed away on December 6, 1956, in Delhi.</li> <li>He was suffering from diabetes and other ailments and died peacefully in his sleep at his residence.</li> <li>He was cremated at Raj Ghat with full state honours.</li> </ul>



	<ul style="list-style-type: none"> <li>• He is widely regarded as the chief architect of the Indian Constitution and a champion of human rights and social justice.</li> </ul>
<b>Chaitya Bhoomi</b>	<ul style="list-style-type: none"> <li>• This is where Ambedkar's ashes were interred on December 7, 1956, in Mumbai.</li> <li>• The site is located near Shivaji Park in Dadar and has a large stupa-like structure with a statue of Ambedkar.</li> <li>• It is visited by millions of people every year on his death anniversary.</li> </ul>

### Conclusion

- The Ambedkar Circuit is not only a tourist attraction but also a tribute to one of the greatest sons of India who fought for the rights and dignity of the oppressed and marginalized sections of society. By visiting these places, tourists can get inspired by Ambedkar's vision and values and pay their respects to his memory.



## 8.6 GLOBAL BUDDHIST SUMMIT

### Context

- The Prime Minister formally inaugurated the First Global Buddhist Summit, which was co-hosted by the Ministry of Culture and the International Buddhist Confederation.

### Details

#### About

- The Prime Minister delivered the opening remarks at the Global Buddhist Summit in New Delhi.
- The **theme of the Global Buddhist Summit is "Responses to Contemporary Challenges: Philosophy to Praxis."**
- The Summit's debate focused on how the Buddha Dhamma's essential values might provide inspiration and guidance in modern contexts.
- The Summit was attended by over 170 International Delegates from over 30 different nations throughout the world.

#### Objectives

- To foster dialogue, collaboration and innovation among the diverse traditions and cultures of Buddhism.
- To address the challenges and opportunities facing Buddhism in the 21st century.

- Celebrate the rich diversity and unity of Buddhism, which has evolved into various traditions and schools over time and across regions.

#### Significance of the Summit

- It showcases the diversity and richness of Buddhist traditions and cultures across the world and fosters mutual respect and understanding among them.
- It provides a platform for Buddhist leaders and scholars to exchange views and insights on various aspects of Buddhist doctrine and practice, and to share their experiences and achievements in applying Buddhism to various fields of human endeavour.
- It offers an opportunity for Buddhist practitioners and followers to learn from each other and to deepen their faith and commitment to the Buddha's teachings.
- It addresses the pressing issues and challenges facing humanity today, such as poverty, inequality, violence, environmental degradation, mental health, etc., and proposes Buddhist solutions and perspectives based on wisdom, compassion and non-violence.
- It contributes to the promotion of world peace and harmony by emphasizing the

common values and goals of Buddhism and other religions and spiritual traditions, and by encouraging interfaith dialogue and cooperation.

### Highlights of the Prime Minister's Speech

- Much archaeological evidence related to Buddhism has been found in Vadnagar, Gujarat. Once, Buddhist traveller Hiuen Tsang also visited Vadnagar.
- India is moving fast on the **path of Buddha 'Pariyatti, Patipatti and Pativedha'**.
- It is the legacy of Lord Buddha's teachings that India considers the grief of every human being as its own. Be it peace missions in different countries of the world, or calamities like the earthquake in Turkey, India stands with humanity in times of every crisis by exerting its full potential.
- We have to remember that the journey from problems to solutions is the actual journey of Buddha. Buddha did not leave the palace because he had any problems.
  - Buddha left the palace and gave up the royal luxury because he felt that he had all the comforts available to him whereas there was misery in the lives of others.
  - If we want to make the world happy, this Buddha mantra of totality is the only way

to go beyond the idea of self and narrow-mindedness.

- We have to think about the poverty-stricken people around us. We have to think about the countries dealing with a scarcity of resources. This is the only way to establish a better and stable world, it is necessary.
- Today, it is the need of the hour that the priority of every individual and every nation should be the interest of the world, the 'Global World Interest', along with the interest of the country.
- The path of Buddha is the path of the future, the path of sustainability. Had the world followed the teachings of Buddha, we would not even have faced a crisis like a climate change.
  - This crisis developed because some nations stopped caring about others, about the future generations in the last century.
- Every person is affecting the earth in one way or the other. Be it our lifestyle, our dresses, eating or travelling habits, everything has an impact, it makes a difference.
- Everyone can fight the challenges of climate change. If people become aware and change their lifestyle, then even this big problem can be dealt with and this is the way of Buddha.

#### Pariyatti

- **Pariyatti means the study of the teachings of the Buddha** as contained in the scriptures, such as the Tipitaka or Tripitaka.
- It is the first step in learning about the Dhamma, the truth of reality.
- It helps us to understand the basic principles and concepts of Buddhism, such as the Four Noble Truths, the Noble Eightfold Path, the law of karma, and the nature of suffering and its cessation.
- It helps us to develop faith and confidence in the Buddha, his enlightenment and his teachings.

#### Patipatti

- **Patipatti means the practice of the Dhamma in our daily lives.** It is not enough to just study the teachings intellectually; we need to apply them to our actions, speech and thoughts.
- It involves following moral principles, cultivating concentration and mindfulness, developing wholesome mental qualities, and purifying our minds from defilements.
- It helps us to test and verify the teachings for ourselves, by observing their effects on our happiness and suffering.

#### Pativedha

- **Pativedha means the direct realization of the Dhamma** through insight meditation or vipassana bhavana.

- It is the ultimate goal of the Buddhist path, where we penetrate the true nature of phenomena and attain liberation from suffering.
  - It is not something that can be achieved by mere study or practice; it requires a deep and clear vision of reality that transcends conceptual thinking and ordinary perception.
  - It helps us to attain various stages of awakening, such as stream-entry, once-returner, non-returner and arahant.
- Pariyatti, Patipatti and Pativedha are interrelated and interdependent. They form a cycle of learning, practising and realizing that brings us closer to the ultimate goal of Nirvana.

## 8.7 SAURASHTRA TAMIL SANGAMAM

### Context

- The 10-day Saurashtra Tamil Sangamam saw nearly 3,000 people from Tamil Nadu, mostly Gujaratis settled in the southern State, participate.

### Saurashtra Tamil Sangamam

#### About

- Saurashtra Tamil Sangamam is a unique initiative to **celebrate the linguistic and cultural diversity of India** and to strengthen the bonds between the Gujarati and Tamil communities.
- It brought together nearly 3,000 people from Tamil Nadu, mostly Gujaratis settled in the southern state, to their ancestral homeland of Gujarat.
- The event also included visits to various historical and spiritual places in Gujarat, such

as Dwarka, the Statue of Unity at Kevadia, and Gandhinagar.

#### The Highlight of the Event

- Exhibition of Tamil Nadu and Gujarat's art, culture, cuisine, handloom, handicrafts, and more at Somnath.
- Showcased the skills and talents of states, as well as their common heritage and values.
- Cultural performances by artists from both the states, such as classical dance and music, folk music, concerts, debates and seminars on the Ramayana and Mahabharata available in Tamil, Saurashtra, and Gujarati literature.
- The participants **visited various historical and religious places in Saurashtra, such as Somnath Temple, Dwarka Temple, Gir National Park, and Porbandar.**

<b>Somnath Temple</b>	<ul style="list-style-type: none"> <li>• It is located on the <b>western coast of Gujarat</b>; it is dedicated to Lord Shiva.</li> <li>• The temple was destroyed and rebuilt several times.</li> <li>• The temple faced its first major <b>attack by Mahmud of Ghazni in 1026 CE</b>, who looted its wealth and idols.</li> <li>• The present temple construction began in 1950 CE and was completed in 1951 CE.</li> <li>• The <b>temple was built in the Māru-Gurjara style of Hindu temple architecture</b>, with intricate carvings and sculptures.</li> </ul>
<b>Dwarka Temple</b>	<ul style="list-style-type: none"> <li>• It is located in the city of Dwarka, in the western state of Gujarat.</li> <li>• It is dedicated to Lord Krishna, who is believed to have established his kingdom here after leaving Mathura.</li> <li>• It is said to be more than 2500 years old and has been rebuilt several times over the centuries.</li> <li>• The current structure dates back to the 16th century and is a masterpiece of ancient architecture.</li> </ul>

	<ul style="list-style-type: none"> <li>It is also <b>part of the Char Dham Yatra</b>, which is a circuit of four holy sites for Hindus.</li> </ul>
<b>Gir National Park</b>	<ul style="list-style-type: none"> <li>It is located in Gujarat, and home to the <b>largest population of Asiatic lions in the world.</b> <ul style="list-style-type: none"> <li>Asiatic lions are a subspecies of the African lion, but they have adapted to the dry and deciduous forest of Gir.</li> <li>They are smaller and lighter than their African cousins.</li> </ul> </li> <li>Gir National Park is the <b>only place where we can find these lions in the wild</b>, as they have been extinct in other parts of Asia for centuries.</li> </ul>

### Significance

- It was a historic and memorable event that strengthened the bonds between two states and two cultures.
- It also showcased the spirit of 'Ek Bharat Shreshtha Bharat', which is based on the

mantra of 'Nattu Nalane Namadu Nalan' (National Interest is our Interest).

- It was a testament to India's cultural richness and resilience, which has survived and thrived for thousands of years.

### Ek Bharat Shreshtha Bharat

- It was announced by Prime Minister Narendra Modi on 31st October 2015, on the occasion of the 140th birth anniversary of Sardar Vallabhbhai Patel, who is regarded as the chief architect of India's unity.
- The idea is to pair different states and union territories of India for a year, during which they will exchange cultural, educational, tourism and other activities.
- The aim is to enhance mutual understanding, cooperation and bonding among people of different regions and backgrounds.

### Conclusion

- The Saurashtra Tamil Sangamam is a remarkable example of how India's diversity can be celebrated and cherished. It is also a

testament to the spirit of unity and harmony that prevails among the people of this country, despite their differences in language, religion, or region.

## 8.8 SHORT TOPICS

### Rongali Bihu

#### Context

- A record was set for "the largest Bihu performance at a single venue" by 11,298 female dancers at the Sarusajai Stadium in Guwahati, Assam.

#### About

- Rongali Bihu is one of the three types of Bihu festivals that are celebrated in Assam**, the other two;
  - Kati Bihu or Kongali Bihu in October
  - Magh Bihu or Bhogali Bihu in January.
- Each festival historically recognizes a different agricultural cycle of the paddy crop.

- It is celebrated in April every year and is a seven-day festival that involves various rituals, customs, and traditions.

#### New Year Celebration

- Rongali Bihu, also known as Bohag Bihu, is the most important festival of the Assamese people and **marks the beginning of the Assamese New Year.**
- Rongali Bihu coincides with the onset of Bohag month in the Assamese calendar, which usually falls on the 13th or 14th of April according to the Gregorian calendar.
- It also coincides with other regional festivals such as Vaisakhi, Vishu, Pohela Boishakh,

Puthandu, and Chaitra Navratri which celebrate the Solar New Year in different parts of India.

## Uttaramerur Inscription

### Context

- While discussing India's democratic history, the Prime Minister referred to the Uttaramerur inscription, Kanchipuram district, Tamilnadu.

### Details

#### About

- The Uttaramerur inscription sheds light on the political and social structure of ancient India.
- It is a set of copper plates that records the rules and regulations for the election of local representatives in a village called Uttaramerur in Tamil Nadu.
- The inscription dates back to the 10th century CE, during the reign of the Chola dynasty.

#### Local Election

- The inscription records the qualifications and disqualifications of the candidates, the method of casting votes, and the procedure for counting and declaring the results.
- The **voters had to be adult male residents of the village who paid taxes and owned land.**
- The representatives were elected by a process of drawing lots from a pot (kudavolai).
  - All individuals qualified and willing would write their names on palm leaf tickets.
  - The representative would be chosen by an elaborate draw of lots.
- The candidates had to meet certain eligibility criteria, such as being a landowner, a taxpayer, a resident of the ward, and having a good moral character.

#### Self-Governance

- The inscription reveals that the **villagers had a well-organized and sophisticated system of self-governance**, based on the principles of participation, representation, accountability, and transparency.
- The **villagers formed various committees to manage different aspects of public affairs**, such as irrigation, taxation, justice, education,

and temple administration.

- The inscription reveals that the village was divided into 30 wards, each with its representative.
- The members of these committees were elected by the villagers for a fixed term of one year, and they could not be re-elected for the next three years.

#### Detailed Responsibilities

- The inscription lays down the duties and responsibilities of the elected representatives, such as maintaining public order, collecting taxes, managing irrigation works, and resolving disputes.
- The inscription also prescribes penalties for misconduct or negligence of duty, such as fines, confiscation of property, or removal from office.

#### Criticism

##### Not a true Democracy

- While the Uttaramerur inscription describes local self-government, a deeper examination reveals that it is far from a fully democratic society.
- It limits sabha membership to a small group of land-owning brahmans.
- It does not hold actual elections; instead, members are chosen by lot from an eligible pool of candidates.

#### Conclusion

- The inscription is a valuable source of information, it shows that democracy was not a foreign concept imported by the British or the Greeks, but an indigenous tradition that flourished in India long before the modern era.
- It also demonstrates that the villagers had a high level of civic awareness and responsibility and that they exercised their rights and duties with diligence and fairness.
- The inscription is a testimony to the wisdom and foresight of the ancient Indians who devised a system of governance that was democratic, decentralized, and inclusive.

## Thirunelly Temple

### Context

- The Indian National Trust for Art and Cultural Heritage (INTACH) has requested the government to protect the 600-year-old 'Vilakkumadom', a magnificent granite edifice at the Thirunelly temple, Wayanad, Kerala.

### Details

#### Thirunelly Temple

- It is located on the **slopes of Brahmagiri hill, near the border of Kerala and Karnataka state.**
- The temple is **dedicated to Lord Vishnu**, the supreme god of Vaishnavism.
- The temple is **also known as Sahyamalaka Kshetra**, meaning the place where the mountains meet.
  - The temple is surrounded by lush green forests and mountains, creating a serene and picturesque atmosphere for devotees.

- The temple also has a **holy spring and river called Papanasini**, which means the destroyer of sins.
- One of the most remarkable features of the temple is the **Vilakkumadom, a 600-year-old granite structure.**

#### Vilakkumadom

- The Vilakkumadom, which means "the house of lamps", is believed to have been **built in the 15th century AD** by the local rulers as a tribute to the presiding deity of the temple, Lord Vishnu.
- The Vilakkumadom is a **rectangular structure with four pillars supporting a pyramidal roof.**
- The roof is adorned with intricate **carvings of floral motifs, mythical creatures and divine figures.**
- The walls of the Vilakkumadom are decorated with paintings depicting scenes from the Hindu epics and Puranas.
- The Vilakkumadom also **houses a large bronze lamp** that is lit during special occasions and festivals.

#### Indian National Trust for Art and Cultural Heritage (INTACH)

- It is a non-profit organization that was established in 1984 to promote and protect the diverse heritage of India.
- It works on various aspects of heritage conservation, such as architectural, natural, material, intangible, educational, and tourism.
- It runs a heritage academy that offers training and capacity-building programs for professionals and enthusiasts.
- Its vision is to create a culture of conservation and appreciation for India's rich and varied heritage.

## 8.9 SNIPPETS



### GOND PAINTINGS

- Madhya Pradesh's famous Gond art has been designated as a Geographical Indication (GI).
- They are characterized by the use of bright colours, natural materials, and intricate patterns of dots and lines.
- The paintings often depict animals, birds, trees, scenes from daily life, and goddesses like Marahi Devi and Phulvari Devi.
- They use dots and lines to fill the shapes and create a sense of movement and rhythm.
- The artists add their signature motifs and styles to their paintings, making them unique and personal.
- They are traditionally done on walls, floors, and household objects during festivals and ceremonies.

## 9. GEOGRAPHY

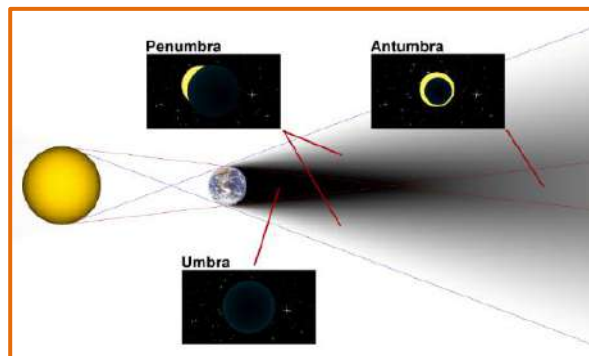
### 9.1 HYBRID SOLAR ECLIPSE

#### Context

- A 'hybrid' solar eclipse called the Ningaloo Eclipse is set to happen on April 20, 2023.

#### What is a Hybrid Solar Eclipse?

- A hybrid eclipse is a type of solar eclipse that looks like an annular solar eclipse or a total solar eclipse, depending on the observer's location along the central eclipse path.
- It is caused when the moon's shadow moves across Earth - making a transition to another.
- During this rare eclipse, the Sun forms a ring-like shape - known as the 'ring of fire' - for a few seconds.



Neither a partial eclipse, nor a full eclipse will be visible to viewers in India but you will be able to catch a livestream of the event from a vantage point in Western Australia. In fact, it is called the Ningaloo eclipse because it will be best viewed from the Ningaloo coast in Australia.

#### Three Shadows, Three Eclipse Types:

- A solar eclipse occurs when the Moon's shadow falls on Earth. The shadow consists of three areas: *an umbra*, *a penumbra*, and *an antumbra*:

The Moon's umbra, the shadow's dark central portion, causes total solar eclipses, where the Moon appears a little larger than the Sun and covers it completely.

The penumbra, the lighter outer part of the shadow, creates partial solar eclipses. Here, the Moon obscures only a part of the Sun's disk.

The antumbra, a half-shadow that begins where the umbra ends, results in annular solar eclipses. During this type of eclipse, the Moon looks a little smaller than the Sun, so the edge of the Sun's disk remains visible around the Moon.

#### TOTAL SOLAR ECLIPSE

- During a total solar eclipse, the Moon passes between the Earth and Sun while completely blocking the face of the Sun.
- It will be visible to the people located in the centre of the Moon's shadow when it hits Earth.
- During a total solar eclipse, the sky will become dark as if it were early morning or late evening.
- If the weather conditions are right, people in the path of the solar eclipse will be able to see the Sun's corona

#### ANNULAR SOLAR ECLIPSE

- During an annular eclipse, the **Moon** passes between the **Sun** and **Earth**, but it will be too far from the Earth for a total solar eclipse.
- Because of this, the Moon will appear as a dark disc on a bright disc. This will look like a "ring of fire" around the Moon.

(outer atmosphere). This is usually obscured by the bright face of the Sun.

### Distance to the Moon Depends on the Location

- If the Earth was a flat wall facing the Sun and the Moon, there would be no hybrid solar eclipses. **The umbra and antumbra do not overlap**, so, depending on the Moon's current distance, it would cast either its umbra or its antumbra on the Earth's flat surface, creating either a total or **an annular solar eclipse**.
- However, since we live on a globe, the Moon's distance at any one moment differs from one place on the Earth's surface to another.
- It is smallest in locations where the Moon is in the zenith position, meaning straight up. The **lower the Moon's altitude**, the larger its distance.

### Why Hybrid Eclipses Are Rare?

- The reason why hybrid solar eclipses are comparatively rare—they **happen roughly once per decade**—is that both the Moon's and the Sun's distance to Earth have to be just right.
  - **For example**, if the total distance between the Moon and the Earth is comparatively small, only the Moon's umbra falls on Earth, creating a total solar eclipse in all locations along the central shadow's path.
- **Annular solar eclipses** happen when the **Moon is relatively far away from Earth**, so the antumbra forms before the shadow reaches Earth, even in locations facing the Moon directly.
- The snag is that both the Sun's and the Moon's distance change continuously. Since the **spectrum of distances** required for a hybrid eclipse is so **narrow**, **most eclipse configurations** are unsuitable for this type of eclipse.

### What Does a Hybrid Eclipse Look Like?

- While hybrid solar eclipses represent a rare and interesting type of eclipse on a global scale, they look like standard **total, annular, or partial eclipses**, depending on the observer's location.
- However, since **hybrid solar eclipses** involve the thinnest parts of the **Moon's umbra and antumbra**, their main phase, where the Moon is positioned centrally in front of the Sun, is typically very short.
- As with total and **annular eclipses**, the Sun appears **partially eclipsed** before and after the main phase of a hybrid eclipse.

## 9.2 INDIAN METEOROLOGICAL DEPARTMENT

### Context

- IMD forecasts 'normal' monsoon in its first official update; El Niño threat present but will not result in 'deficient' rains.

### About the recent weather Forecast

- India Meteorological Department (IMD) forecasting a 4% shortfall in the coming monsoon season.
- In 2019 and 2020, for instance, India saw monsoon rains over 10% and 11% of the 87 cm LPA (a 50-year average from 1971-2022).
- Most recently, it was in 2017 that the IMD forecast 96% in April that year, for the monsoon, and India saw a 2.6% shortfall that year.



FUNCTION	• It is the principal agency responsible for meteorological observations, weather forecasting and seismology.
UNDER MINISTRY	• Ministry of Earth Sciences of the Government of India.
HEADQUARTERS	• Delhi and operates hundreds of observation stations across India and Antarctica.
REGIONAL OFFICES	• Chennai, Mumbai, Kolkata, Nagpur, Guwahati and New Delhi.
OPERATIONS	• It operates a network of hundreds of surface and glacial observatories, Upper Air (high altitude) stations, ozone and radiation observatories and meteorological radar stations.

LPA is the average rainfall received by the country from June to September during 1971-2020 and is calculated to be 868.6 mm. The India Meteorological Department (IMD) categorises a monsoon season with rainfall anywhere from 90-95 per cent of the LPA as a below-normal season.

### Key factors behind it

- The development of 'El Nino', a cyclical phenomenon of warming in the central Pacific that in six out of ten years is linked to diminished rainfall in the country's west, northwest and in western parts of central India.
- Last year saw 6% more rains than what is usual.
- Skymet forecast the coming monsoons to be 'below normal' or 94% of the LPA.
- It again premised on the developing 'El Nino', with Punjab, Haryana, Rajasthan and Uttar Pradesh expected to be see diminished rains in August and September.

### Reasons behind it

- **'El Nino' effect:**
  - From 1951-2022, there have been 15 'El Nino' years, defined as a greater-than-half-degree Celsius rise in temperatures in the central, equatorial Pacific Ocean with nine of those years witnessing 'below normal' rains.
  - In 2015, the last 'strong' El Nino year (>1.5 C rise), monsoon rains shrivel by 14%. A 'weaker' El Nino (a sub-1C rise) in 2018 saw a contraction of 7.4%.
- 'El Nino' conditions are imminent, there are ameliorating factors that may blunt its impact. One, 'El Nino' is only likely to begin to take root in the second half of the monsoon season – August and September.
- The weather models also indicate the development of a '**positive**' phase of the Indian Ocean Dipole and so, a somewhat reduced impact of the 'El Nino'.
- **Reduced snow cover in Eurasia.**
  - "This February and March, we have seen below normal snow cover in Eurasia and typically reduced snow cover in these months is favourable for monsoon
  - In 1997, despite a 'strong' 'El Nino', monsoon rainfall turned out to be 2% more than normal and this was due to favourable IOD conditions.
- **Cultivation concerns:**
  - **India's kharif sowing**, which begins in June, is extremely dependent on monsoon rainfall.
  - **Most of central India**, a key agricultural belt, as well as southern India are expected to get normal or even slightly above normal rain.
- **Indian Ocean Dipole:**
  - A positive IOD can't entirely compensate for an 'El Nino' as the latter has a stronger effect on Indian monsoon.

*El Niño is the warmer-than-normal phase of the El Niño Southern Oscillation (ENSO) phenomenon and generally dampens monsoon rainfall.*

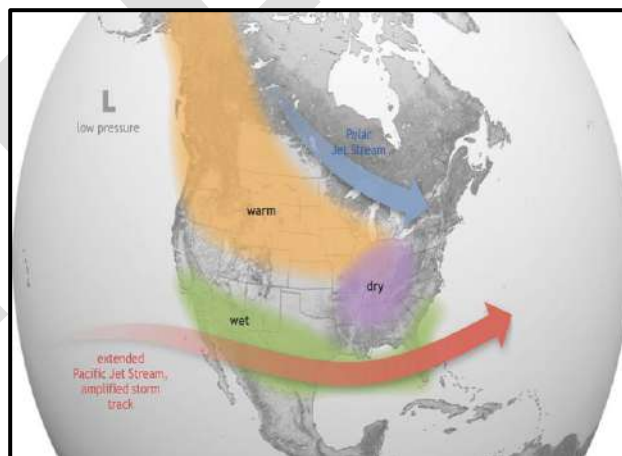
### What are El Niño and La Niña?

- During normal conditions in the Pacific ocean, trade winds blow west along the equator, taking warm water from South America towards Asia.
- To replace that warm water, cold water rises from the depths – a process called **upwelling**.
- El Niño and La Niña are two **opposing climate patterns** that break these normal conditions.
  - Scientists call these phenomena the El Niño-Southern Oscillation (ENSO) cycle.
- El Niño and La Niña can **both have global impacts on weather**, wildfires, ecosystems, and economies.
- Episodes of El Niño and La Niña typically last **nine to 12 months**, but can sometimes last for years.
- El Niño and La Niña events occur **every two to seven years**, on average, but they don't occur on a regular schedule.
- Generally, El Niño occurs more frequently than La Niña.

#### Phenomena: El Niño

##### Impacts

- During El Niño, trade winds weaken. Warm water is pushed back east, toward the west coast of the Americas.
- El Niño can affect our weather significantly.
- The warmer waters cause the Pacific jet stream to move south of its neutral position.
- With this shift, areas in the northern U.S. and Canada are dryer and warmer than usual.
- But in the U.S. Gulf Coast and Southeast, these periods are wetter than usual and have increased flooding.
- El Niño also has a strong effect on marine life off the Pacific coast.
- During normal conditions, upwelling brings water from the depths to the surface; this water is cold and nutrient rich.
- During El Niño, upwelling weakens or stops altogether.
- Without the nutrients from the deep, there are fewer phytoplankton off the coast.
- This affects fish that eat phytoplankton and, in turn, affects everything that eats fish.
- The warmer waters can also bring tropical species, like yellowtail and albacore tuna, into areas that are normally too cold.



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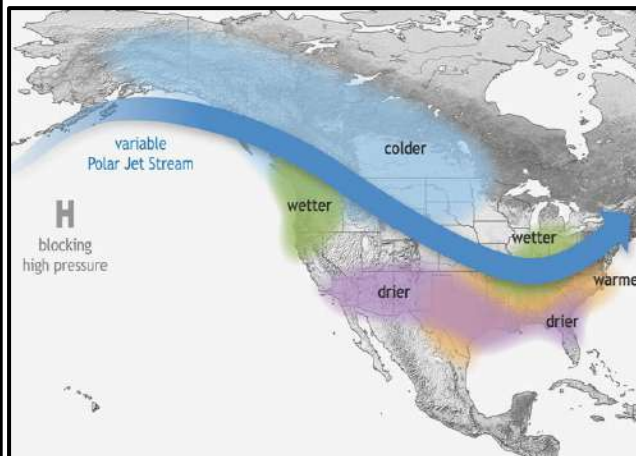


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**Phenomena: La Niña**

**Impacts**

- La Niña has the opposite effect of El Niño. During La Niña events, trade winds are even stronger than usual, pushing more warm water toward Asia.
- Off the west coast of the Americas, upwelling increases, bringing cold, nutrient-rich water to the surface.
- These cold waters in the Pacific push the jet stream northward.
- This tends to lead to drought in the southern U.S. and heavy rains and flooding in the Pacific Northwest and Canada.
- During a La Niña year, winter temperatures are warmer than normal in the South and cooler than normal in the North.
- La Niña can also lead to a more severe hurricane season.
- During La Niña, waters off the Pacific coast are colder and contain more nutrients than usual.
- This environment supports more marine life and attracts more cold-water species, like squid and salmon, to places like the California coast.



**9.3 HEAT WAVES**

**Context**

- According to India Meteorological Department (IMD), heatwave conditions are currently prevailing in some areas of Gangetic West Bengal, coastal Andhra Pradesh, and Bihar.

**Details**

- In most parts of Mumbai, maximum temperatures on Sunday were in the range of 30-35 degrees Celsius.

- In the 10 years between 2010 and 2020, reported heatwave-related deaths in India came down by more than 90 per cent.
- Heatwave fatalities had peaked in 2015, when more than 2,000 deaths were reported.
- The death count dropped rapidly in the next few years, and in 2020 and 2021, only four heatwave deaths were reported, according to government figures.



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**About**

- A heat wave is a period of abnormally and uncomfortably hot and usually humid weather.
- According to the World Meteorological, a heat wave is when the daily maximum temperature for more than five consecutive days exceeds the average maximum temperature by 9 degrees Fahrenheit.
- In India, Heat wave is considered if maximum temperature of a station reaches at least 40 degree C or more for Plains and at least 30 degree C or more for Hilly regions.
- **Based on Departure from Normal**
  - **Heat Wave:** Departure from normal is 4.5 degree C to 6.4 degree C
  - **Severe Heat Wave:** Departure from normal is >6.4 degree C
- **Based on Actual Maximum Temperature**
  - **Heat Wave:** When actual maximum temperature  $\geq$  45 degree C
  - **Severe Heat Wave:** When actual maximum temperature  $\geq$  47 degree C
- **Warm Night**
  - It should be considered only when maximum temperature remains 40 degree C or more. It
  - may be defined based on departures or actual minimum temperatures as follows:
    - **Warm night:** minimum temperature departure is 4.5 degree C to 6.4 degree C
    - **Very warm night:** minimum temperature departure is >6.4 degree C
- **For coastal stations**
  - When maximum temperature departure is 4.5 degree C or more from normal, Heat Wave may be declared provided actual maximum temperature is 37 degree C or more.


**Formation of Heat Waves**

- **Generation of static high pressure:** When static high pressure generated in the upper atmosphere over a region for several days up to several weeks. This static high pressure generates a hot mass of air, which is stagnant for many days and week, which resulted the trapping of more heat that also reduce the convection currents.
- **Sinking Air mass:** The high-pressure acts as a barrier and forces the mass of air to sink to the surface of the land that prevents heat to rise.
- **Accumulation of hot Air mass:** This hot mass of air accumulates only heat and humidity without any trace of precipitation that causes abnormally high temperatures. It is very often during the summer season, from May to November in the northern hemisphere.
- **Increased evaporation and raining:** : The seal keeps out convection currents that form

clouds and eventually rain clouds, both of which would help the area affected cool off.

**MERCURIAL METER**

Some of the new and cross-country benchmarks are listed below. Earlier, they used to vary from state to state

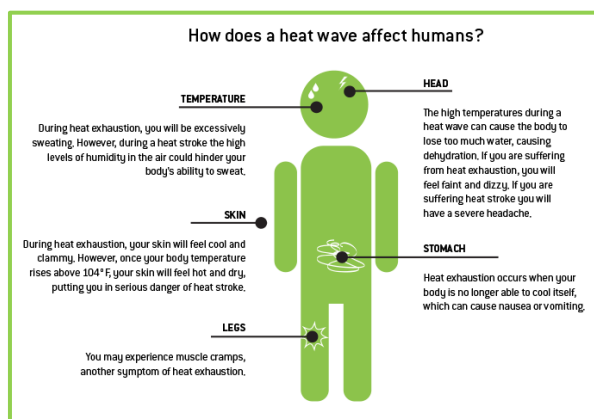
HEAT WAVES		COLD WAVES
Based on departure from normal		Based on departure from normal
<b>Heat wave:</b> 4.5°C to 6.4°C above normal maximum		<b>Cold wave:</b> 4.5°C to 6.4°C below normal minimum
<b>Severe heat wave:</b> More than 6.4°C above normal maximum		<b>Severe cold wave:</b> Anything more than 6.4°C below normal minimum
Based on actual maximum temperature		Based on actual minimum temperature
<b>Heat wave:</b> Temperature equal or greater than 45°C		<b>Cold wave:</b> Minimum temperature is 4°C or lower
<b>Severe heat wave:</b> Equal or greater than 47°C		<b>Severe cold wave:</b> Minimum temperature is 2°C or lower
<b>Warm night:</b> (Will apply only when maximum temperature remains 40°C or more) Minimum temperature departure is 4.5°C to 6.4°C		<b>Cold day:</b> (Applies when minimum temperature is 10°C or lower in plains and 0°C or lower in hilly regions) Maximum temperature departure is minus 4.5°C to minus 6.4°C
<b>Very warm night:</b> Minimum temperature departure is above 6.4°C		<b>Very cold day:</b> Maximum temperature departure is greater than minus 6.4°C

- **Increased Humidity:** Instead the result is a heat wave that has both high heat and high humidity near the ground. These heat waves can last from days to weeks.

## Impacts of Heat Waves

### Social impacts

- Extreme heat can lead to **heat-related illness and death**, particularly in elderly populations, the poor, outdoor workers, and in urban areas.
- Heat waves **exacerbate the urban heat island effects**, amplifying temperatures in built environments, and resulting in poorer air quality due to the creation of ozone that negatively impacts health.



### Economic impacts

A World Bank report suggests that by 2050, about 600 million Indians will live in places that could experience loss of living standards, which could cost 2.8% of the GDP, stalling efforts to pull large parts of the population out of poverty.

- Multiple areas of the economic sector experience **reduced worker productivity during heatwaves**, especially agriculture and construction.
- For e.g: Globally, 2% of total working hours is projected to be lost every year, either because it is too hot to work or because workers have to work at a slower pace.
- Lost productivity from heat stress at work, particularly in developing countries, is

expected to be valued at \$4.2 trillion dollars per year by 2030, driving more inequality.

### Heat waves in India

- In India, a region or locality is considered to be under the influence of a heatwave if the maximum temperature reaches or exceeds;
  - 40 degrees Celsius in the plains.
  - 30 degrees Celsius in hilly regions.
  - 37 degrees Over the coastal regions
- As per the IMD, the most heatwave prone states are Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Odisha, Madhya Pradesh, Rajasthan, Gujarat, Vidarbha, and parts of Karnataka, Andhra Pradesh, Telangana, and occasionally over Tamil Nadu and Kerala.

### Ecological impacts

- Heatwaves, without concomitant increases in precipitation, can lead to water shortages and increased stress for plants, particularly in arid regions. This has the effect of **reducing plant growth, the basis of energy production and the food chain**, with an overall drying-out of the landscape.
  - Eg-The 2003 European heatwave resulted in a 10% loss in glacier mass in Europe, which was five-times more than the average annual loss. Similar impacts were reported for the French Alps in 2019.

### Way forward

- **Establish Early Warning System and Inter-Agency Coordination** to alert residents on predicted high and extreme temperatures. Who will do what, when, and how is made clear to individuals and units of key departments, especially for health.
- **Capacity building/training programme for health care professionals** at the local level to recognize and respond to heat-related illnesses, particularly during extreme heat events.
- **Collaboration with non-government and civil society** to improve bus stands, build temporary shelters, wherever necessary,

improve water delivery systems in public areas and other innovative measures to tackle Heatwave conditions.

- **Identifying heat hot spots through appropriate tracking of meteorological data** and promoting timely development and implementation of local Heat Action Plans with strategic inter-agency coordination, and

a response which targets the most vulnerable groups.

- **Review of existing occupational health standards**, labour laws and sectoral regulations for worker safety in relation to climatic conditions.
- Expedite the rollout of the **National Action Plan on Climate Change and Health**.

## 9.4 TEMPERATURE ANOMALIES

### Context

- March 2023 has been declared as the Earth's second-warmest March since global record-keeping began in 1850.

### Details

- March 2023 was indeed the **second warmest in the instrumental record**.

- The warmest March occurred just a few years ago in **2016**, when the biggest **El Niño of the 21st century** triggered a **'mini' global warming**.
- But the **January-to-March** average temperature anomaly ranks **2023 as the fourth warmest** such period on record.

<b>About</b>	<ul style="list-style-type: none"> <li>• The term temperature anomaly means a <b>departure from a reference value or long-term average</b>.</li> <li>• A positive anomaly indicates that the observed temperature was warmer than the reference value, while a negative anomaly indicates that the <b>observed temperature was cooler than the reference value</b>.</li> </ul>
<b>Calculated by</b>	<ul style="list-style-type: none"> <li>• These are a measure of temperature compared to a reference temperature, which is often calculated as an average of temperatures over a reference period, often called a <b>base period</b>.</li> </ul>
<b>Type</b>	<ul style="list-style-type: none"> <li>• A <b>positive anomaly</b> means that the <b>temperature was warmer</b> than normal.</li> <li>• A <b>negative anomaly</b> indicates that the <b>temperature was cooler</b> than normal.</li> </ul>
<b>Why use temperature anomalies and not the actual temperature measurements?</b>	<ul style="list-style-type: none"> <li>• Actual temperature measurements are often difficult to gather. Some areas in the world have few temperature measurement stations (<b>for example, remote jungles and deserts</b>), and temperatures must be <b>estimated over large regions</b>.</li> <li>• Using anomalies, the departure from <i>an "average,"</i> allows <b>more accurate descriptions</b> over larger areas than actual temperatures and provides a frame of reference that allows easier analysis.</li> </ul>

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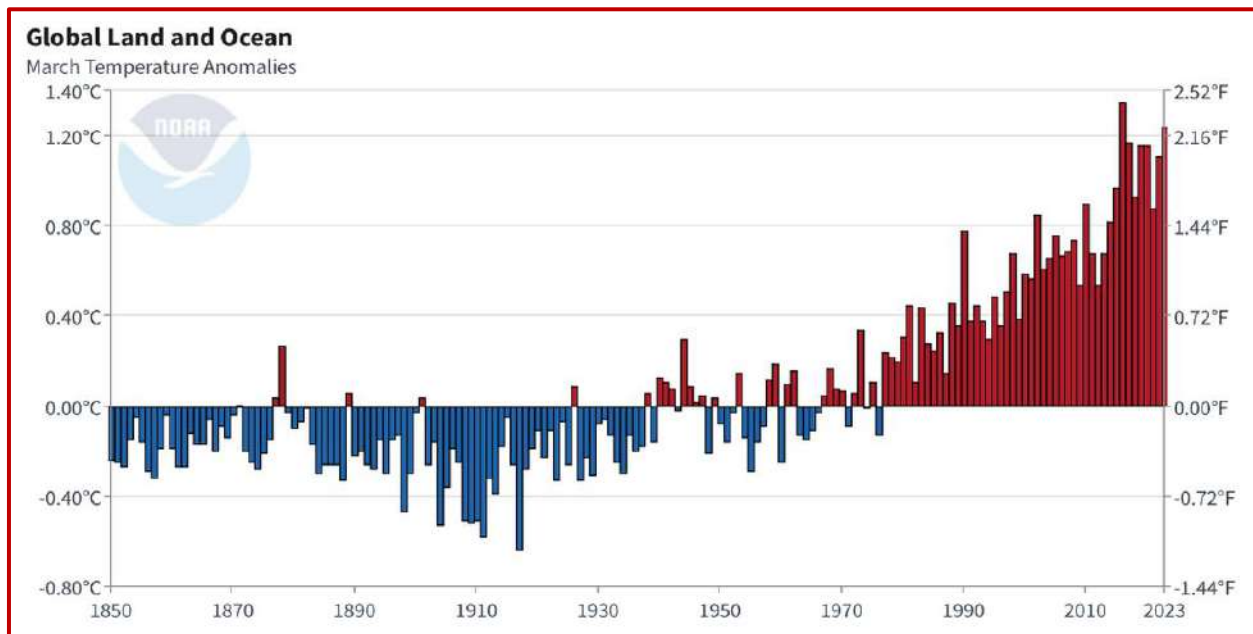
**POLITY**

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## Why was March 2023 the second warmest and not the warmest?



- Asia had its second-warmest March; South America and Africa had their fourth-warmest March; Europe had its tenth-warmest March; Oceania had its 17th-warmest March; and North America had a warmer-than-average March that did not rank among the 20 warmest on record.
- **The distribution of temperature anomalies** for March 2023 are determined by a combination of global warming and natural variability such as **El Niño** and **La Niña**.

- El Niño begins as a warming of ocean waters in the eastern tropical Pacific, which warms the surrounding air and shuffles weather patterns across the northern hemisphere and beyond. Global temperatures tend to be higher during periods dominated by El Niño.
- La Niña represents the periodic cooling of sea-surface temperatures across the east-central equatorial Pacific.

- **Sea ice hit near-record lows:** Globally, polar sea ice coverage ranked as the second-smallest coverage (extent) on record since records began in 1979. Only 2017 had a smaller global extent.
- **The tropics saw a lower-than-average number of named tropical storms, but one of those was record large:** Four named tropical storms occurred across the globe in March, which was less than average.
- This global distribution of temperature anomalies is due to **land-ocean-atmosphere processes** that dynamically determine the weather and climate.
- **Global warming does not mean each month or each year will be warmer than the previous month or the previous year.**
- Instead, a better place to begin would be by **averaging the weather over a decade**. Decade to decade warming clearly shows that humans are now ensuring each decade is warmer than the one before.

### Significant impacts of Temperature anomaly Deviation in Temperature distribution

- The monstrous warming to the west to north of India led to cooler March over Mumbai, excess pre-monsoon rains over the northwest and scorching heatwaves in **Kerala and Odisha**.

### Enhances Cyclonic Circulation

- The Arabian Sea has also warmed more than expected this March. It can favour a stronger monsoon but may also enhance cyclogenesis (i.e. birth of cyclonic circulation) over the Arabian Sea.

### Crop damage

- Rabi crops require **cooler temperatures for optimal output**. Weather anomaly in form of warmer temperatures may lead to crop damage, affecting food security.

### Weakens El Nino

- As with the temperature, precipitation anomalies for March 2023 show the impact of a warm March over Eurasia in the form of **below-normal precipitation**.
- Warmer March has reduced snowfall over the Eurasian landmass, which tends to **favour a stronger monsoon**.
- Even though 2023 is expected to be an El Niño year (which tends to produce weaker monsoons), its effect could be **blunted by the lower snow cover over Eurasia**.

### Prolonged heatwaves

- Rapid warming of Middle-East and northern Arabian Sea has enhanced the duration,

frequency, and intensity of heat waves over India in the pre-monsoon season.

### Way forward

- **Reduce carbon emission:** There is a need for a drastic and **immediate cut in carbon emissions**, given that the changes to the climate already made are not reversible.
- **There is a need to make vulnerability assessment** central to long-term planning for developing adaptation and mitigation strategies.
- **Regional-scale climate change risk assessments:** Inclusion of detailed, **regional-scale climate change** risk assessments would help develop region and **sector-specific mitigation** and adaptation measures to reduce vulnerability to climate change.
- **Robust observational networks:** Greater emphasis on **widening observational networks**, sustained monitoring, expanding research on regional changes in climate and their impacts.
- All nations, **especially the G20 and other major emitters**, need to join the **net-zero emissions coalition** and reinforce their commitments.

## 9.5 SHORT TOPICS

### Cepheid Star

#### In News

- According to a recent study a new measurement could change understanding of the Universe.

#### About Cepheid stars

- Cepheid stars are stars that have evolved off the main sequence into the Cepheid instability strip.
- They are regular **radial-pulsating stars**, with a well-defined **period-luminosity relationship**, which makes them ideal stars to be used as primary distance indicating standard candles.
- These stars also **show radial velocity variations** which correspond to the photometric curves.



- Brighter cepheids have longer periods than fainter (less luminous) cepheids.



**Prelims specific extra details:**

**Classical Cepheid:**

- Classical Cepheid stars are **supergiants** of greater than 2-3 solar masses, that at the end of **main-sequence H burning** move across the HR diagram to become red giants, crossing the Cepheid instability strip.
- **The type-II Cepheids** are low-mass, high-luminosity pulsators, with periods from 1-40 days. These evolved stars have a He core surrounded by an outer H shell.
- **The type-II's** are sub-divided into the BLHer, WVir, and RVTau sub-types.

**Dwarf Cepheids**

- They are short **period pulsators** that are found where the Cepheid instability strip crosses the main sequence.
- **The delSct sub-type of dwarf cepheids** have periods of 30-min - 8-hours, spectral types A-F, and have photometric amplitude variations of > 0.3 magnitude.

**RRLyr stars**

- They are **short period (< 1 day) pulsators**, horizontal branch stars that are in the Cepheid instability strip. The RRLyr stars are older, less-luminous stars than the classical Cepheids.

**Nevado Del Ruiz Volcano**

**In News**

- Colombian authorities plan to evacuate people living within 15 kilometers of the Nevado del Ruiz volcano, which is being monitored for a possible eruption.

**About Nevado del Ruiz**

- It is also known as **La Mesa de Herveo**.
- It is a volcano on the **border of the departments of Caldas and Tolima in Colombia**. The volcano usually generates Plinian eruptions, which produce swift-moving currents of hot gas and rock called pyroclastic flows.

- **Type of volcano:** It is about 129 km west of the capital city Bogotá. It is a **stratovolcano** composed of many layers of lava alternating with hardened volcanic ash and other pyroclastic rocks.
- **Natural vegetation:** The volcano is **part of Los Nevados National Natural Park**, which also contains several other volcanoes.
- **Location:** It lies within the **Pacific Ring of Fire**, a region that encircles the Pacific Ocean and contains some of the world's most active volcanoes. It lies in the **North Volcanic Zone of the Andean Volcanic Belt**.

**READ:** <https://www.iasgyan.in/blogs/types-of-volcano>

**Flash Droughts**

**Context**

- According to a paper published recently in Nature Communications, India is a hotspot for

flash droughts and this could have major implications for the country's crop production.

**Details:**

<b>About</b>	<ul style="list-style-type: none"> <li>• It refers to <b>relatively short periods of warm surface temperature</b> and anomalously low and rapid decreasing soil moisture (SM).</li> </ul>
<b>Duration</b>	<ul style="list-style-type: none"> <li>• Flash droughts start and intensify quickly, over periods of <b>weeks to months</b>, compared to years or decades for conventional droughts.</li> </ul>
<b>Factors</b>	<ul style="list-style-type: none"> <li>• It is often preceded by <b>abnormally high temperatures</b> (e.g., heat waves), high winds, and/or changes in radiation.</li> <li>• They can also be tied to <b>rhythmic climatic patterns</b>, such as <b>La Niña events</b>.</li> <li>• <b>Changes in the rate of evapotranspiration</b> and soil moisture have been</li> </ul>

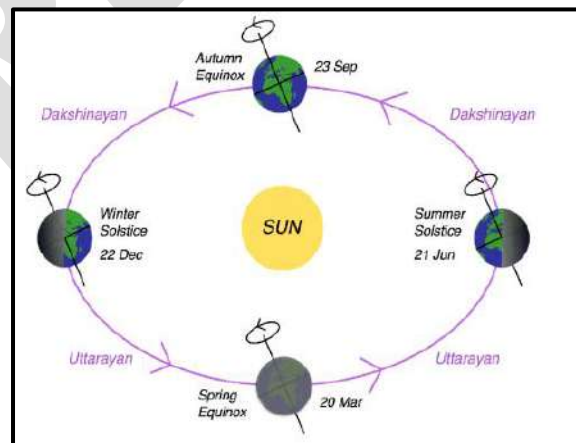
	<p>identified as key early warning indicators.</p> <ul style="list-style-type: none"> <li>• They can occur even <b>when no preceding signs are detected</b>.</li> </ul>
<b>Conventional v/s Flash draught</b>	<ul style="list-style-type: none"> <li>• Unlike conventional drought, which can happen anywhere and at any time, <b>flash drought typically occurs during warm seasons</b> in the central United States.</li> </ul>
<b>Impacts</b>	<ul style="list-style-type: none"> <li>• <b>Economic damages caused by flash droughts</b> can be significant.</li> <li>• Increased farm distress.</li> <li>• Increased budgetary pressures.</li> <li>• <b>'Multiplier effect'</b> on the economy: Droughts <b>cost 2-5 percent of India's GDP</b>.</li> <li>• Low domestic production (especially Agro-Based Industries).</li> <li>• Unfair Business Practices.</li> </ul>
<b>Detection</b>	<ul style="list-style-type: none"> <li>• Through <b>use of remote sensing data and various indices</b> for drought monitoring as well as through on-line help facilities.</li> <li>• <b>Through Early-warning systems (EWS)</b>, that could identify trends in climate and sources of water, are used to detect the emergence or probability of the occurrence of flash droughts.</li> </ul>

## Zero Shadow Day

### Context

- Recently Bengaluru experienced a 'Zero Shadow Day', when vertical objects appear to cast no shadow.

### Details



<b>About</b>	<ul style="list-style-type: none"> <li>• A zero shadow day is a day on which the <b>Sun does not cast a shadow</b> of an <b>object at solar noon</b>, when the sun will be exactly at the <b>zenith</b> position.</li> </ul>
<b>Place of occurrence</b>	<ul style="list-style-type: none"> <li>• Zero Shadow Day occurs on different days in places away <b>from 130 latitude</b>.</li> <li>• It happens twice a year for locations in <b>the tropics (between the Tropic of Cancer at latitude 23.4° N and the Tropic of Capricorn at 23.4° S)</b>.</li> <li>• The dates will vary for different locations on Earth.</li> </ul>
<b>Causes for occurrence</b>	<ul style="list-style-type: none"> <li>• This phenomenon occurs when the <b>Sun's declination becomes equal to the latitude of the location</b>.</li> <li>• On a zero-shadow day, when the <b>sun crosses the local meridian</b>, the sun's rays will <b>fall exactly vertical</b> relative to an object on the ground and one <u>cannot observe any shadow</u> of that object.</li> </ul>

<b>Example</b>	<ul style="list-style-type: none"> <li>On April 25, 2023, the <b>Sun reaches exactly overhead</b> at (12:17 pm) in <b>Bengaluru</b> and at all places along the 130 north Latitude. The <b>shadow</b> of any vertical <b>object would disappear at that instant</b>.</li> </ul>
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## World Meteorological Organization

### Context

- The unusual heat in Europe last year, during which several countries experienced record-breaking temperatures, contributed to the deaths of at least 15,000 people, more than any other single extreme climate event, according to a new report by the World Meteorological Organisation.

### Details:

<b>About</b>	<ul style="list-style-type: none"> <li>It is a <b>specialized agency</b> of the <b>United Nations (UN)</b>.</li> <li>It is an <b>intergovernmental organization</b> within the UN System.</li> </ul>
<b>Established</b>	<ul style="list-style-type: none"> <li>Established by the <b>ratification of the WMO Convention on 23rd March 1950</b>.</li> </ul>
<b>Roles and responsibilities</b>	<ul style="list-style-type: none"> <li>It is responsible for <b>promoting international cooperation</b> in atmospheric science, climatology, hydrology and geophysics.</li> </ul>
<b>Headquarters</b>	<ul style="list-style-type: none"> <li>Geneva, Switzerland.</li> </ul>
<b>Members</b>	<ul style="list-style-type: none"> <li>It is made up of <b>193 countries and territories</b> and encourages the "<b>free and unrestricted</b>" exchange of data, information, and research between the respective <u>meteorological and hydrological institutions</u> of its members.</li> </ul>
<b>Collaborations</b>	<ul style="list-style-type: none"> <li>It also collaborates with <b>nongovernmental partners and other international organizations</b> on matters related to <u>environmental protection, climate change, resource management, and socioeconomic development</u>.</li> </ul>
<b>Government structure</b>	<ul style="list-style-type: none"> <li>Its <b>supreme body</b> is the <b>World Meteorological Congress</b>, which consists of representatives of all members. It <b>meets at least every four years</b> to set general policy and adopt regulations.</li> <li><b>A 36-member Executive Council</b> meets <b>annually</b> and implements policy.</li> <li>The Secretariat, <b>headed by a secretary-general</b> appointed by the congress for a <b>four-year term</b>, serves as the administrative center of the organization.</li> <li><b>Six regional associations</b> address problems peculiar to their regions.</li> <li><b>Eight technical commissions</b>.</li> </ul>
<b>Reports and programs</b>	<ul style="list-style-type: none"> <li>The State of the Global Climate</li> <li>World Weather Watch</li> <li>World Climate Programme</li> <li>Atmospheric Research and Environment Programme</li> <li>Greenhouse Gas Bulletin</li> </ul>

## 9.6 1 MAINS QUESTION & 5 MCQs

**Q1. What are the drivers of Flash Drought and what are the challenges related to Flash Drought Management? Suggest measures to tackle Flash Droughts.(150 words)**

**Answer:**

- Flash drought refers to relatively short periods of warm surface temperature and anomalously low and rapid decreasing soil moisture (SM).

### The drivers of Flash Drought:

- Global warming
- Precipitation deficit
- Failed Monsoon
- Amplification of evaporative demand
- High precipitation variability
- Oscillation of the Inter-Tropical Convergence Zone (ITCZ):
- Anticyclones
- Over-exploitation of groundwater.

### The challenges related to Flash Drought:

- Treated as a short-term issue and handled as a crisis situation only.
- Poor early warning system.
- Poor assessment.
- No reliable data on water.
- The misconception that tackling drought is beyond our control.
- Managing Drought comes under the State List.

### Suggestions:

- Periodic review of the progress of drought mitigation activities
- Integrated basin planning.
- Real-time data for groundwater management: example: Andhra Pradesh online water dashboard.
- Community-based drought management plans- example: Pani Panchayat of Odisha.
- Awareness and capacity building on water conservation and harvesting.
- Cultivation of drought resistant crops.
- India urgently needs an adaptation framework in place to manage the available water resources and also explore the use of drought-tolerant varieties.

### **Q2. With reference to Heat waves, consider the following statements:**

1. An increase in humidity will worsen the impact of a heat wave.
2. India recognizes heat wave as a disaster under the Disaster Management Act.

**Which of the above given statements is/are incorrect?**

- A. 1 only**
- B. 2 only**
- C. Both 1 and 2**

### **D. Neither 1 nor 2**

**Answer: B**

- *The presence of humidity in the environment prevents the thermoregulatory mechanism of evaporative cooling of the body through the process of perspiration, which can cause heat stress thus exacerbating the impact of a heat wave. Hence statement 1 is correct.*
- *The Indian government does not recognize heat waves as potential threat to human lives. The National Disaster Management Act and the National Policy on Disaster Management do not include heat wave fatalities in their list of natural calamities and so no budgetary allocation is made to address the problem. Hence statement 2 is incorrect.*

### **Q3. Which of the following statements are correct in reference to Zero Shadow Day?**

1. Zero Shadow Day occurs when the Sun will be directly overhead at local noon, and hence any vertical object will cast no shadow. This happens for places between the Tropic of Capricorn and Arctic Circle.
2. Zero Shadow Day is clearly different for different places on Earth.

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

- A. 1 only**
- B. 2 only**
- C. Both 1 and 2**
- D. Neither 1 nor 2**

**Answer: B**

- *Zero Shadow Day occurs when the Sun will be directly overhead at local noon, and hence any vertical object will cast no shadow. This happens for places between the Tropic of Cancer and Tropic of Capricorn. Hence statement 1 is incorrect.*

### **Q4. With reference to World Meteorological Organisation (WMO) consider the following statements:**

1. It is not a specialized agency of the United Nations for meteorology.
2. The Theme for World Meteorological Day 2023 is 'The Future of Weather and Climate Change.
3. It aims to develop the standardisation of meteorological data and promotes meteorology training and research.

Which of the above given statements is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer: C

- On March 23, 1950, the World Meteorological Organization became the UN's specialised organisation for operational hydrology and meteorology. **Hence statement 1 is incorrect.**
- The Theme for WMD 2023 is 'The Future of Weather, Climate and Water across Generations.' It emphasises the effects of climate change and actions to safeguard the environment for future generations.
- It aims to develop the standardisation of meteorological data and promotes meteorology training and research for the benefit of various sectors.

**Q5. Consider the following statements regarding heat waves according to India Meteorological Department (IMD).**

1. A heat wave is declared for hilly regions when the maximum temperature of a station touches at least 40 degrees Celsius.
2. Heatwave is declared when the departure from normal temperature is by 4.5 to 6.4 degrees Celsius.

Which of the statements given above is/are incorrect?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

- According to the IMD, heatwave is considered when the maximum temperature of a station touches at least 40 degrees Celsius or more for plains, 37 degrees Celsius or more for coastal regions and at least 30 degrees Celsius or more for hilly regions. **Hence statement 1 is incorrect.**

- Heatwave is declared when the departure from normal temperature is by 4.5 to 6.4 degrees Celsius. **Hence statement 2 is correct.**

**Q6. Which of the following statements is/are incorrect?**

1. Partial solar eclipses occur when the Moon only partially obscures the Sun's disk and casts only its penumbra on Earth.
2. Hybrid Solar Eclipses, also known as annular-total eclipses, are the rarest type. They occur when the same eclipse changes from an annular to a total solar eclipse, and/or vice versa, along the eclipse's path.
3. An annular eclipse of the Sun takes place when the Moon is near apogee, and the Moon's antumbra falls on Earth.
4. In a partial solar eclipse, only the edge of the Moon's shadow falls on the northern hemisphere.

Select the correct option using the code given below:

- A. 1 and 4 only
- B. 1 and 4 only
- C. 2 and 3 only
- D. None of the above

Answer: D

- Partial solar eclipses occur when the Moon only partially obscures the Sun's disk and casts only its penumbra on Earth.
- Hybrid Solar Eclipses, also known as annular-total eclipses, are the rarest type. They occur when the same eclipse changes from an annular to a total solar eclipse, and/or vice versa, along the eclipse's path.
- An annular eclipse of the Sun takes place when the Moon is near apogee, and the Moon's antumbra falls on Earth.
- In a partial solar eclipse, only the edge of the Moon's shadow falls on the northern hemisphere.
- Hence all statements are correct.

# 10. PLACES IN NEWS

## 10.1 IN INDIA


### MADH ISLAND

**Context**

- NGT revokes stay on demolition of five studios in Madh Island.

**Details**

- Location: Madh is predominantly an island located in Malad west, in the western suburbs of Mumbai, Maharashtra.
- Prominence: Over the years, Madh has evolved from a group of fishing villages to a prominent residential and holiday destination.
- It consists of several fishing villages and farmlands bounded by Arabian sea to the west and Malad creek to the east.
- It also houses Airforce and Naval stations.
- It is primarily inhabited by Kolis, Marathis, and Roman Catholics.
- It also has an old Fort, Madh Fort and a 16th century Portuguese Church - St. Bonaventure.
- 'Erangal' is a picturesque village on Madh island which is a popular filming location.




### DIBANG WILDLIFE SANCTUARY

**Context**

- National Tiger Conservation Authority (NTCA) informed the Dibang Wildlife Sanctuary in Arunachal Pradesh will soon be notified as a tiger reserve.

**Details**

- Location: The Dibang wildlife sanctuary lies nestled in the Arunachal Pradesh.
- It is one of the eight wildlife sanctuaries, located in north east of Anini, in Arunachal Pradesh which occupies part of the Eastern Himalayas.
- River: Dibang valley district has been named after the Dibang River, a tributary of Brahmaputra River.
- National park: Adjacent to the Mouling National Park, it was established in 1980s.
- Later in 1988, as per the guidelines of UNESCO, together these areas became part of Dibang Biosphere Reserve, one of the major biodiversity hotspots of the world.
- Flora: It consists of vegetation of moist temperate and alpine type.
- Fauna: Snow leopards thrive in proximity to high altitudes whereas clouded leopards are found in lower latitudinal zones.




### NATHU LA PASS

**Context**

- Seven people were killed while 20 others have been rescued after five or six vehicles along with 20-30 tourists were hit by an avalanche near Nathu La in East Sikkim.

**Details**

- Nathu La is a mountain pass in the Dongkya Range of the Himalayas between China's Yadong County in Tibet, and the Indian states of Sikkim and West Bengal in Bengal, South Asia.
- It separates Sikkim and the Chumbi Valley.
- The pass is 52-54 kilometres east of Gangtok, the capital of Sikkim.




### KIBITHOO VILLAGE

**Context**

- Recently, Union Minister for Home Affairs And Cooperation, Amit Shah lighted the lamp at the launch of 'Vibrant Village Programme' at Kibithu-a border village.

**Details**

- Location: India's easternmost inhabited place stands on the line of control or LAC.
- Boundaries: It is uniquely located on the trijunction, with China to the north and Myanmar to the east.
- A small village in Arunachal Pradesh's Anjaw district, it is located on the last road head of extreme northeast of north eastern India and the very place where the Lohit River enters India.
- It is one of the five officially agreed Border Personnel Meeting points between the Indian Army and the People's Liberation Army of China
- Kibithu is one of the places which forms the Indo-China border and has always been important.
- The village is nestled roughly around 4000 ft above sea level and lies in Mishmi hills, 27 kms on the east of administrative town of Walong.




### BELAGAVI

**Context**

- The conflict between Maharashtra and Karnataka pertains to claims and counter-claims over towns and villages situated along the border of the two states.

**Details**


- It is a city in the Indian state of Karnataka located in its northern part along the Western Ghats.
- It was founded in late 12th century AD by the Ratta dynasty, who shifted from nearby Saundatti.
- was chosen as the venue of the 39th session of the Indian National Congress in December 1924 under the presidency of Mahatma Gandhi.



### BAILEY BRIDGES

**About**

- A Bailey bridge is a type of portable, pre-fabricated, truss bridge.
- It was developed in 1940-1941 by the British for military use during the Second World War and saw extensive use by British, Canadian and American military engineering units.
- A Bailey bridge has the advantages of requiring no special tools or heavy equipment to assemble.
- The wood and steel bridge elements were small and light enough to be carried in trucks and lifted into place by hand, without the use of a crane.
- The bridges were strong enough to carry tanks.
- Bailey bridges continue to be used extensively in civil engineering construction projects and to provide temporary crossings for pedestrian and vehicle traffic.



### KAWAL TIGER RESERVE


**About**

- It is located in North Eastern part of Telangana (Old Adilabad district) having Godavari river at one side and Maharashtra border on other side.
- Government of India declared Kawal wildlife sanctuary as Tiger Reserve in 2012.
- It is well known for its abundant flora and fauna. This sanctuary is catchment for the rivers Godavari and Kadam, which flow towards the south of the sanctuary.
- It is extending in the districts of Nirmal, Mancheril, Adilabad and KB Asifabad Districts.
- It is central Indian Tiger Landscape having - southern Tropical Dry Deciduous Forest.
- The sanctuary is one of the richest teak forests in the state, with dense pristine areas free of human disturbance. Dry deciduous teak forests mixed with bamboo, terminalia, pterocarpus, anogeissus and cassias.
- Mammal species that have been sighted include tiger, leopard, Indian gaur, cheetal, sambar, nilgai, barking deer, chowsingha, peacock and sloth bear. Several species of birds and reptiles are also found in the sanctuary.

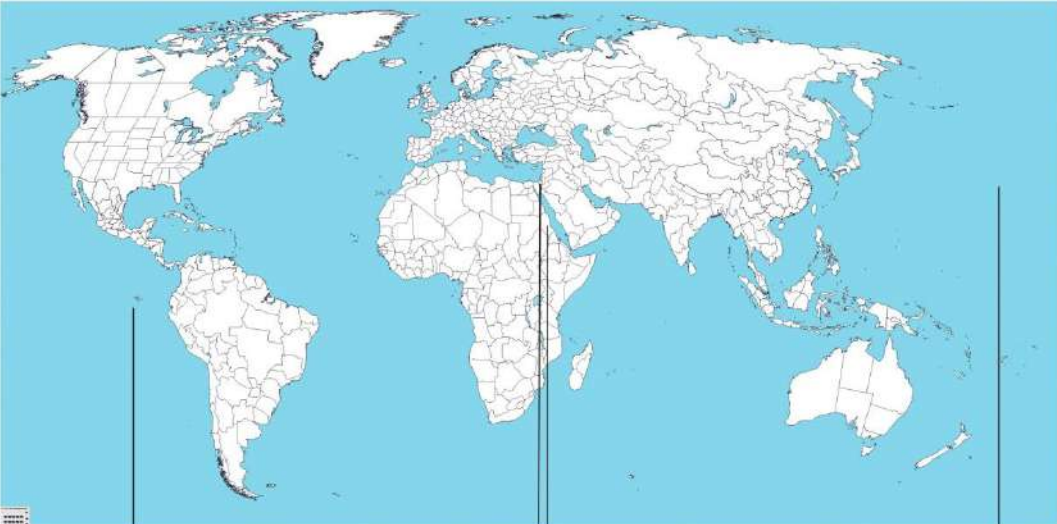
### DIMA HASAO

**About**

- Location: It is an administrative district in the state of Assam enjoying the Sixth Schedule status. It was earlier known as North Cachar Hills district.
- It is one of the two Autonomous hill districts of the state of Assam.
- The district headquarter Hailong is the only hill station in Assam, a tourist paradise, also named the Switzerland of the north-east.
- The District is surrounded by Karbi Anglong district and Nagaland on North-East, Manipur on East, Hojai District on North, West Karbi Anglong district on North-West, Meghalaya on West and Cachar district on South.
- It is one of the eleven districts in Assam currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).



## 10.2 IN WORLD




### AL-AQSA MOSQUE

**Context**

- Clashes between Palestinians and Israeli police at Al-Aqsa mosque compound injured 42 people on the last Friday of Ramadan.

**Details**

- It lies at the heart of Jerusalem's Old City on a hill known to Jews as Har ha-Bayit, or Temple Mount, and to Muslims internationally as al-Haram al-Sharif, or The Noble Sanctuary.
- It has the structure of a Byzantine basilica.
- It was built of wood by Omar, and only after a few years, it was made of stone by the fifth successor to the Umayyad house, Abd al-Malek.
- It is built of several architectural styles combined.
- The exact date of its establishment is unknown, but it was built to serve as a place of prayer for many Muslim pilgrims, and it is estimated that it has existed for over 1,500 years.




### KILAUEA VOLCANO

**About**

- Location:** It is an active shield volcano in the southeastern shore of the Big Island of Hawaiian Islands.
- Kilauea is the second-youngest product of the Hawaiian hotspot and the current eruptive center of the Hawaiian–Emperor seamount chain.
- Kilauea has erupted 34 times since 1952. From 1983 to 2018, it erupted almost continuously, in some cases sending streams of lava that covered farms and homes.
- Structurally, Kilauea has a large, fairly recently formed caldera at its summit and two active rift zones, one extending 125 km (78 mi) east and the other 35 km (22 mi) west, as an active fault of unknown depth moving vertically an average of 2 to 20 mm (0.1 to 0.8 in) per year.

**Kilauea volcano**


People forced to flee as lava flows in residential areas



### GALAPAGOS ISLANDS

**About**

- It is an archipelago of volcanic islands.
- The islands are located in the eastern Pacific Ocean, 973 km off the west coast of South America.
- It belongs to the Republic of Ecuador that lies 926 km to the east.
- Mount Azul, at 5,541 feet is the highest point of the Galapagos Islands.
- In 1978 the islands were designated a UNESCO World Heritage site.
- Galapagos marine iguana, is a species of iguana found only on the Galapagos Islands (Ecuador).
- The archipelago is mainly characterized by a mixture of a tropical savanna climate and a semi-arid climate. It also transits into a tropical rainforest climate in the northwest.



### SUDAN

**About**

- Location:** It is situated in northern Africa, with an 853 km coastline bordering the Red Sea.
- Bordering countries:** It has land borders with Egypt, Eritrea, Ethiopia, South Sudan, the Central African Republic, Chad, and Libya.
- It is mainly composed of vast plains and plateaus that are drained by the Nile River and its tributaries. This river system runs from south to north across the entire length of the east-central part of the country.
- The central and the northern part have extremely dry, desert areas such as the Nubian Desert to the northeast and the Bayuda Desert to the east; in the south, there are grasslands and tropical savanna.
- The dry regions are plagued by sandstorms, known as haboob, which can completely block out the sun.

