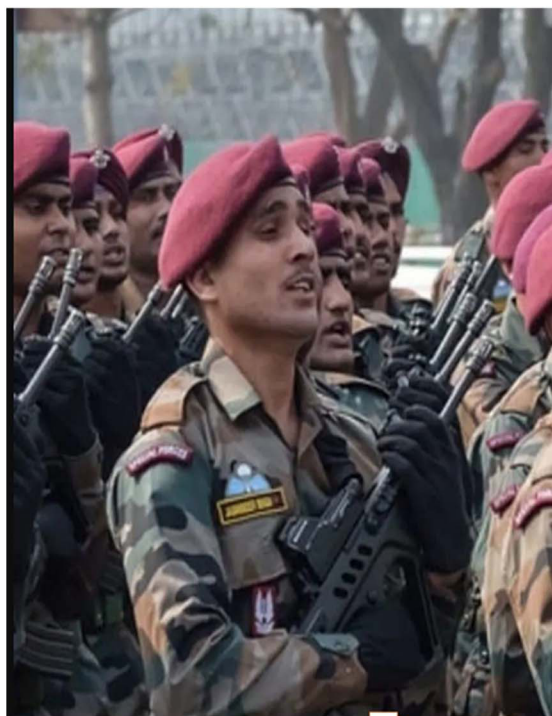
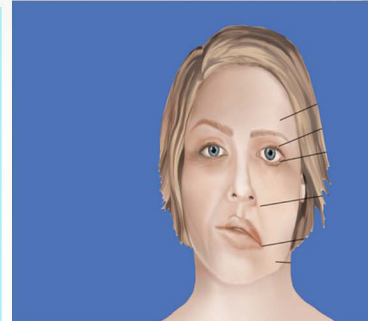


**JUNE 2022**

# CURRENT AFFAIRS

*MAGAZINE*



**MODERN HISTORY SPECIAL**  
*(REVOLTS & REBELLIONS)*

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CHAHAL  
ACADEMY



# POLITY & GOVERNANCE

## NATIONAL SOCIALIST COUNCIL OF NAGALAND (ISAK-MUIVAH)

**Context:** Recently, the National Socialist Council of Nagaland (Isak-Muivah)/NSCN(I-M), has said **it will not settle for the "Naga national flag" as a cultural flag** as indicated by New Delhi.

## NATIONALIST SOCIALIST COUNCIL OF NAGALAND (NSCN)

- It is a **Naga nationalist group** operating in North-east.
  - The **main aim** of the organization is **to establish a sovereign state, "Nagalim"** unifying all the areas inhabited by the Naga people in Northeast India and Burma.
- NSCN was formed in **1980** by Isak Chishi Swu, Thuingaleng Muivah and S.S. Khaplang **opposing the Shillong Accord signed by the then Naga National Council (NNC) with the Government of India.**
- Later, **misunderstanding surfaced within the outfit leaders** over the issue of commencing negotiation dialogue with the Indian Government and the NSCN split in 1980 into two factions:
  - the NSCN-K led by S S Khaplang, and
  - the NSCN-IM, led by Isak and Muivah.

## NAGA PEACE ACCORD 2015

- The Naga Peace Accord was **signed between the National Socialist Council of Nagalim-Isak-Muivah (NSCN-IM) and the Government of India on August 3, 2015**
  - It shows the flexibility and realism of the NSCN (IM) in terms of the **willingness to alter goals, from complete sovereignty and Greater Nagalim to acceptance of the constitutional framework** albeit with a provision for the grant of greater autonomy to Naga inhabited areas outside of Nagaland through the establishment of autonomous district councils.
- The **final agreement is yet to be signed** as talks are going on with six Naga national political groups (NNPG).
  - Even various ethnic groups of Manipur are not easily coming around to an agreeable solution.
  - The Naga peace accord **has been hanging fire** since a framework agreement was signed with the NSCN-IM in 2015.
- Naga groups even **carried out rally in February 2019 in Delhi** demanding early finalization of Naga Peace Accord.

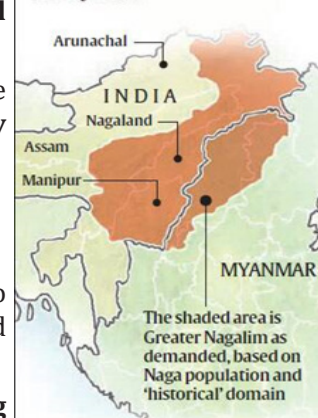
## THE CURRENT ISSUE

The Centre and the NSCN(I-M) signed the Framework Agreement in August 2015, which was said to have paved the way for the final solution to the issue.

- **But the peace process stagnated over the outfit's insistence on a separate flag and the Yehzabo, or Naga constitution, as part of the deal.**
- NSCN(IM) contends that the idea of **"sharing sovereign power"** and **"co-existence of the two entities"** means **Naga people will be entitled to their own national flag and constitution.**
- There have been reports from Nagaland that the Centre would agree to the use of the Naga national flag for cultural purposes and **incorporating a mutually acceptable part of the Naga constitution in the Constitution of India.**
- NSCN(I-M) signed a ceasefire agreement with the government in 1997.
  - The rival NSCN(Khaplang) followed suit in 2001 but reneged in March 2015.
  - Various factions of the latter and some older outfits got together in 2016 to form the **Naga National Political Groups (NNPGs)**, which signed the Agreed Position with the Centre in 2017.
  - The Naga National Political Groups are **not insistent on a separate Naga flag and constitution.**

### WHAT NSCN-IM WANTS

Demand for Greater Nagalim includes all of Nagaland and parts of Assam, Arunachal, Manipur — and Myanmar





# NAGAS

- Nagas are a hill people who are estimated to number about 2.5 million (1.8 million in Nagaland, 0.6 million in Manipur and 0.1 million in Arunachal Pradesh) and living in the remote and mountainous country between the Indian state of Assam and Burma.
- There are also Naga groups in Burma.
- The Nagas are **not a single tribe**, but an ethnic community that comprises several tribes who live in the state of Nagaland and its neighbourhood.
- Nagas belong to the **Indo-Mongoloid Family**.
- There are nineteen major Naga tribes, namely, Aos, Angamis, Changs, Chakesang, Kabuis, Kacharis, Khain-Mangas, Konyaks, Kukis, Lothas (Lothas), Maos, Mikirs, Phoms, Rengmas, Sangtams, Semas, Tankhuls, Yamchungar and Zeeliang.

## UNIFORM CIVIL CODE

**Context:** The Uttarakhand government recently **announced the formation of an expert committee** to examine ways for the implementation of a uniform civil code.

### WHAT IS UNIFORM CIVIL CODE?

- The Uniform Civil Code (UCC) calls for the **formulation of one law for India**, which would be **applicable to all religious communities** in matters such as marriage, divorce, inheritance, adoption.
- The code comes under **Article 44** of the Constitution, which lays down that the state shall endeavour to secure a Uniform Civil Code for the citizens throughout the territory of India.

### ARTICLE-44 OF THE INDIAN CONSTITUTION

It states, "The State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India". However, since the article comes under the directive principles of state policy, they are regarded as only guidelines and it is not mandatory to use them.

### WILL UTTARAKHAND BE THE FIRST STATE TO BRING UCC?

- Uttarakhand may not be the first state to implement a Uniform Civil Code.
- Goa has a version of what we may see as a UCC.
  - It is the **only state** in India to follow a **common law for all its citizens**.
  - The **coastal state follows the Portuguese Civil Code, 1867**, which is survived in accordance with Section 5 of the **Goa, Daman And Diu (Administration) Act, 1962**.
  - Since **no major change was made** since its liberation from the Portuguese in 1961, the **state continued to follow a common law as per the Portuguese Civil Code**.

### UNIFORM CIVIL CODE AND PERSONAL LAWS

- Personal laws are those that **govern people based on their religion, caste, faith, and beliefs**.
- These laws are made after due consideration of **customs and religious texts**.

- These laws distinctly mention the rules pertaining to marriage, divorce, maintenance, adoption, co-parenting, inheritance, succession, the partition of family property, guardianship, wills, gifts, charitable donations, etc.
- **Hindu personal law** is based on ancient texts like Vedas, Smritis, and Upanishads and modern concepts of justice, equality, conscience etc.
- **Muslim personal law** is primarily based on the Quran and Sunnah (which pertains to the sayings of Prophet Mohammad and his way of life).
- **Christian personal law** is based on scriptures (Bible), traditions, reason, and experience.
- The **introduction of a UCC is likely to annul all such codified laws** and bring in a law that would be **common to all citizens**.
  - Moreover, personal laws are often **conflicting and contradictory** and are not uniformly applied across courts and regions.
  - The introduction of the UCC also **seeks to resolve this problem**.

## ORIGIN OF UNIFORM CIVIL CODE

- The **origin of the UCC dates back to colonial India** when the British government submitted its report in **1835 stressing the need for uniformity in the codification of Indian law** relating to crimes, evidence, and contracts, specifically recommending that personal laws of Hindus and Muslims be kept outside such codification.
- Increase in legislations dealing with personal issues in the far end of the British rule forced the government to form the **B N Rau Committee to codify Hindu law in 1941**.
  - The committee, in accordance with scriptures, recommended a **codified Hindu law**, which would give equal rights to women.
  - **The 1937 Act was reviewed and the committee recommended a civil code of marriage and succession for Hindus.**

## What is the Hindu Code Bill?

- The draft of the Rau Committee report was submitted to a select committee **chaired by B R Ambedkar** that came up for discussion in **1951** after the adoption of the Constitution.
- While discussions continued, the **Hindu Code Bill lapsed** and was resubmitted in **1952**.
- The bill was then **adopted in 1956** as the **Hindu Succession Act** to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs.
- The Act reformed the Hindu personal law and gave women greater property rights, and ownership.

## NEED OF UNIFORM CIVIL CODE

- **PROMOTES SECULARISM**
  - What we have right now in India is **selective secularism** which means that in some areas we are secular and in others we aren't.
  - **A uniform civil code means that all citizens of India have to follow the same laws whether they are Hindus or Muslims or Christians or Sikhs.**
- **MORE RIGHTS TO THE WOMEN**
  - A uniform civil code will also help in **improving the condition of women** in India.
  - A uniform civil code will help in **changing the age-old traditions** that have no place in today's society where we do understand that women should be treated fairly and given equal rights.
- **EVERY MODERN NATION HAS IT**
  - A uniform civil code is the sign of **modern progressive nation**.
  - **It is a sign that the nation has moved away from caste and religious politics.**
  - A uniform civil code will help the society move forward and take India towards its goal of becoming a **developed nation**.
  - **Israel, Japan, France and Russia** are strong today because of their sense of oneness which we have yet to develop and propagate.

- The **European nations** and **US** have a secular law that applies equally and uniformly to all citizens irrespective of their religion.
- The **Islamic countries** have a uniform law based on shariah which applies to all individuals irrespective of their religion.

### ADVANTAGES OF UNIFORM CIVIL CODE

- It will help and **accelerate national integration**;
- **Overlapping** provisions of law could be avoided;
- **Litigation** due to personal law world **decrease**;
- **Sense of oneness** and the national spirit would be roused, and
- The country would emerge with **new force and power** to face any odds finally defeating the communal and the divisionist forces.

### LIMITATIONS OF UNIFORM CIVIL CODE

- **Difficulties due to India's diversity**
  - The implementation of Uniform Civil Code is a cumbersome task due to **wide diversity of our nation**.
  - **Cultural differences from state to state and community to community** is yet another hindrance for a unified personal law.
- **Interference of state in personal matters**
  - The constitution provides for the right to freedom of religion of one's choice.
  - With codification of uniform rules and its compulsion, **the scope of the freedom of religion will be reduced**.
- **Unwillingness**
  - The people from different communities are **not willing** to adopt the secular laws separated from personal laws.
  - It is **not fair to impose** the traditions of one group upon other groups.

### SURROGACY LAW

**Context:** Petitioners have approached the Delhi High Court to question why marital status, age or gender should be the criteria for prohibiting someone from commissioning a surrogacy.

#### DETAILS:

- Under the **Surrogacy (Regulation) Act, 2021** a married couple can opt for surrogacy **only on medical grounds**.
- The law defines a couple as a married Indian "man and woman" and prescribes an **age band of 23 to 50** for the **woman** and **26 to 55** for the **man** to opt for surrogacy.
- The **couple should not have a child of their own**.
- Though the law **allows a single woman** to choose surrogacy, she has to be a **widow** or a **divorcee** between the age of 35 and 45.
- **Single men are not eligible**.

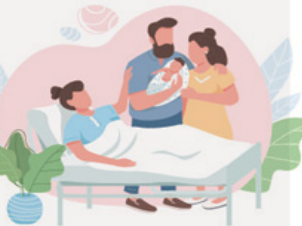
#### WHAT IS SURROGACY?

- Surrogacy is the practice whereby one **woman carries a child for another** with the intension that the child should be handed over after birth.
- **Two types of surrogacy arrangements are being practiced:**
  - **Altruistic surrogacy:** Where the surrogate mother receives no financial rewards for her pregnancy or the relinquishment of the child to the genetic parents except necessary medical expenses.

#### Many barriers

The Surrogacy (Regulation) Act, 2021 was introduced to curb unethical practices related to issues such as sex selection and exploitation of surrogate mothers, with provisions for jail term in case of violations

- Under the Act, a couple can opt for surrogacy only on medical grounds and should produce certificates of eligibility
- The couple should have been married for five years and not have a living child
- The surrogate mother



- has to be a close relative of the couple, a married woman with a child of her own and aged between 25 and 35
- Though the law allows a single woman to resort to surrogacy, she has to be a widow or a divorcee between the age of 35 and 45

- Single men are not eligible



- **Commercial surrogacy:** Where the surrogate mother is paid over and above the necessary medical expenses.

## IS SURROGACY LEGAL IN INDIA?

- Indian surrogacy laws make it **illegal** for foreign intended parents to complete a surrogacy in India.
- The **only people** who can complete a commercial surrogacy in India today are **Indian intended parents** who have been **married for at least five years**.
- The ban on foreign intended parents in 2015 was only the start of legislation regulating surrogacy.
- In December **2018** an Indian surrogacy law was passed that:
  - Made **commercial** surrogacy **illegal**
  - Only **allows altruistic surrogacy** for needy, infertile Indian couples
  - Requires intended parents to be **married for five years** and have a doctor's certificate of their infertility
  - Restricts women to being surrogates only **once**, and only if they are a close relative of the intended parents, are married and have a biological child
  - **Bans** single parents, homosexuals and live-in couples from surrogacy

## WHY HAS INDIAN SURROGACY BEEN BANNED?

- The **protections** available for intended parents and surrogates are less available — and have led to **harmful results**.
- When Indian surrogacy first became a booming industry, there were **no regulations** in place, and **unsafe and unethical practices** developed in response.
  - The women who chose to become surrogates in India during this time were subjected to **unethical treatment, poor living conditions and exploitation**.
  - To keep up with demand from international intended parents, Indian surrogacy agencies effectively ran "**baby factories**," where Indian women were forced to live until they gave birth to the intended parents' babies — with usually no assistance for the family they had left behind while pregnant.
  - In addition, the surrogates in India **only received a fraction of the expenses** that intended parents paid the surrogacy agency — only \$4,000 to \$5,000 for compensation.
  - Their **poverty and lack of education** drew them back into the surrogacy process over and over again for this financial gain, and their health declined as they effectively became "baby-making machines" year after year.
  - They also **did not receive** the kind of **supportive services** they needed for themselves and their family during this emotional journey.
- In response to these the Indian government attempted to take steps to make the process safer for all involved.

### ASSISTED REPRODUCTIVE TECHNOLOGY(ART)

It is used to treat infertility. **It includes fertility treatments that handle both a woman's egg and a man's sperm.**

It works by **removing eggs from a woman's body and mixing them with sperm** to make embryos. The embryos are then put back in the woman's body.

**In Vitro fertilization (IVF)** is the most common and effective type of ART.

ART procedures sometimes use donor eggs, donor sperm, or previously frozen embryos. It may also involve a surrogate carrier.

## THE SURROGACY (REGULATION) ACT, 2021

- The Surrogacy (Regulation) Act was enacted on 25 December 2021.
- In the Act, **commercial surrogacy** is termed as the buying and selling of human embryos i.e., commercial surrogacy is **banned** in the whole country.
- The Act created **new regulations** for surrogacy and **a single man/woman can't opt for surrogacy**.
- The Act mandates everyone to **not print or air advertisements** of commercial surrogacy.
- The Act **allows Altruistic surrogacy** as an act of generosity between close relatives with a contract between them for the same.
  - The intended couple must be **25 to 35 years** old.
  - The act made mandatory for the **eligibility certificate** and the **proof on infertility** of either of the husband or the wife.
  - The couple must get the **order** regarding the parentage from the **Magistrate** of first-class or above.
  - A married woman having a child of her own can act as the **intending woman**.
  - The Act provided that the surrogate mother can **withdraw her consent** any time before the embryo is implanted.
  - And she should be **informed** about the **risks and consequences** wholly before she chooses to accept.
  - The Act also mandates the couple to **provide insurance** for the mother and child.
  - It also mentioned that the couple **should not abandon** the baby born out of the surrogacy procedure.
  - If anyone including the intended couple forces the woman to terminate, she can **report** to the appropriate authority.
- **REGISTRATION OF SURROGACY CLINICS.**
  - The clinic must have the Certificate of Registration to function.
  - For the purpose of registration of surrogacy clinics, a registry was established called the **National Assisted Reproductive Technology and Surrogacy Registry**.
- A board called **National Assisted Reproductive Technology and Surrogacy Board** was constituted and the board consists of 23 members who are experts.
  - Every decision and order of the Board must be signed and authenticated by the Chairperson.
  - Every offence committed shall be **cognizable, non-bailable, and non-compoundable**.
- **UNDER THE ACT, ANY PERSON WHO:**
  - Abandons a child born out of surrogacy,
  - Conducts sex selection,
  - Undertake or run an unauthorized racket or group to perform activities related to surrogacy
  - Exploits surrogate mother or the child/imports or helps to import human embryos
  - Publish, distribute or advertise any information about commercial surrogacy shall be punishable with:
    - Imprisonment of a term which may extend to 10 years and
    - A fine which may extend to ten lakh rupees.
  - Any couple who does not follow altruistic surrogacy and reaches out to any medical practitioner for conducting **commercial surgery** in an **unethical** way shall be punished with imprisonment which may extend to five years and a fine which extends to five lakh rupees.

## WOMEN'S RESERVATION BILL

**Context:** The **first National Women Legislators' Conference** concluded recently, adopted the **Thiruvananthapuram Declaration** and demanded immediate steps to ensure the passage of the **long-pending Women's Reservation Bill** which envisages **33% reservation for women** in the Lok Sabha and State legislatures.

### WHAT IS THE WOMEN'S RESERVATION BILL?

- First **introduced in 1996** by the United Front government led by Deve Gowda in the Lok Sabha, the Women's Reservation Bill **seeks to reserve one-third seats in the Lok Sabha and state assemblies for women**.
  - By introducing the Women's Reservation Bill in the House, the Deve Gowda government aimed to **extend this reservation** to Lok Sabha and state legislative assemblies.
  - Thereafter the bill was **introduced three times** in 1988, 1999, and 2008.
- In 2008, it was introduced in the Rajya Sabha and after scrutiny by the standing committee, it was passed by the Upper House in 2010 and sent to the Lok Sabha.
  - After its reintroduction, the bill was passed by Rajya Sabha on 9 March, 2010, but was still left **pending in Lok Sabha**.
  - **All four bills lapse with the dissolution of those governments.**

### HIGHLIGHTS OF THE BILL

- The **Constitution (One Hundred and Eighth Amendment) Bill** seeks to **reserve one third of all seats for women** in the Lok Sabha and the State Legislative Assemblies.
  - The allocation of reserved seats shall be determined by such authority as prescribed by the **Parliament**.
- **One third** of the total number of seats reserved for **Scheduled Castes and Scheduled Tribes** shall be **reserved for women of those groups** in the Lok Sabha and the State Legislative Assemblies.
  - Reserved seats may be **allotted by rotation** to different constituencies in the States or Union Territories.
- **Reservation of seats for women shall cease to exist 15 years after the commencement of this Amendment Act.**
- **THE REPORT EXAMINING THE 1996 WOMEN'S RESERVATION BILL RECOMMENDED THAT**
  - **Reservation be provided for women of Other Backward Classes (OBCs)** once the Constitution was amended to allow for reservation for OBCs.
  - It also recommended that **reservation be extended to the Rajya Sabha and the Legislative Councils**.
  - **Neither of these recommendations has been incorporated in the Bill.**

### MAIN ARGUMENTS AGAINST THE BILL

- The Bill would **benefit only women from the privileged strata of the society** so this reservation should contain 33% reservation within the women's category for women belonging to the Scheduled Castes, Scheduled Tribes and Other Backward Classes.
  - The **Bill would only help female relatives of current politicians** to enter public space and thereby defeat the very purpose of the Bill.
- Women in modern India **do not need reservation**.
- Reservation should only be **at the level of distributing party tickets**.

### WHERE DOES INDIA STAND IN HAVING ELECTED WOMEN REPRESENTATIVES?

- Globally, **India ranks 148<sup>th</sup> in a list of 193 countries** based on the percentage of elected women representatives in their national parliaments.
- The same data shows that while the **global average** for "lower chamber or unicameral" is 25.8%, **India stands at 14.4% with 78 out of 543 Lok Sabha representatives elected in 2019 being women.**



- India's parliament is bicameral and female members make up **11.6 percent of the upper house or Rajya Sabha**.
- **If the 33 per cent reservation is enacted in the Lok Sabha, it would ensure at least 179 female members in the Lower House of Parliament.**
- In the first Lok Sabha formed in 1952, there were 24 women, **the number has reached 81 in the current Lok Sabha**, out of which 48 women are first-time Members of Parliament.

## RULES GOVERNING THE CONDUCT OF GOVERNMENT OFFICERS

**Context:** Recently, two Senior IAS officers were transferred from their posts in Delhi to two different places this **after a leading newspaper published a picture of the couple along with their dog walking on the tracks of Thyagraj Stadium** at a time when young athletes should have been practising on it.

### WHAT RULES GOVERN THE BEHAVIOR OF HIGH OFFICIALS OF THE GOVERNMENT?

The **three All India Services (IAS, IPS, Indian Forest Service)** are governed by the **All-India Service Conduct Rules, 1968**.

- **Under it every member of the Service shall:**
  - Maintain High **ethical standards, integrity and honesty**;
  - Maintain **Political neutrality**;
  - Maintain Promoting of the principles of **merit, fairness and impartiality** in the discharge of duties;
  - Maintain **Accountability and transparency**;
  - Maintain **Responsiveness** to the public, particularly to the weaker section;
  - Maintain **Courtesy and good behaviour** with the public.
  - Commit himself to and **uphold the supremacy of the Constitution** and democratic values;
  - Defend and **uphold the sovereignty and integrity of India, the security of State, public order, decency and morality**;
  - Maintain **integrity in public service**;
  - Take decisions solely in public interest and use or cause to **use public resources efficiently, effectively and economically**;
  - Declare any private interests relating to his public duties and take steps to **resolve any conflicts in a way that protects the public interest**;
  - **Not place himself under any financial or other obligations** to any individual or Organisation which may influence him in the performance of his official duties;
  - **Not misuse his position as civil servant** and not take decisions in order to derive financial or material benefits for himself, his family or his friends;
  - **Make choices, take decisions and make recommendations on merit alone**;
  - **Act with fairness and impartiality** and not discriminate against anyone, particularly the poor and the under-privileged sections of society;
  - **Refrain from doing anything which is or may be contrary to any law**, rules, regulations and established practices;
  - **Maintain discipline in the discharge of his duties** and be liable to implement the lawful orders duly communicated to him;
  - Be liable to **maintain confidentiality in the performance of his official duties** as required by any laws for the time being in force, particularly with regard to information, disclosure of which may prejudicially affect the sovereignty and integrity of India, the security of State, strategic, scientific or economic interests of the State, friendly relation with foreign countries or lead to incitement of an offence or illegal or unlawful gains to any person;
  - Perform and discharge his duties **with the highest degree of professionalism and dedication** to the best of his abilities.

- The **other civil services are governed by the Central Civil Services (CCS) Conduct Rules, 1964**, which comprise 25 Rules which have seen 44 amendments so far.

## HOW THEN DO SITUATIONS OF VIOLATION OF THESE RULES ARISE?

- Many of these Rules **continue to be violated** frequently in big and small measure by officials.
  - Departmental authorities, as well as the Vigilance set-up of governments, often fail to act against the violations — **which has over time given rise to a culture of impunity and entitlement in a section of officers.**
- The spread of awareness among the public, the **universal availability of camera phones, and the massive growth of social media** has, however, served to put a check on some of these officials.
- In many places, government authorities have moved quickly **to enforce accountability**, reacting to media reports and public posts on social media.
  - The broad Rule against doing anything that is “unbecoming of a member of the Service” is often invoked to rein in errant officials.

## SECURING AADHAAR DATA

**Context:** The Unique Identification Authority of India (UIDAI) issued a warning to the public not to share a photocopy of their Aadhaar with any organization, and then withdrew the warning over worries that it was open to “misinterpretation”.

### WHAT IS AADHAR?

Aadhaar is a **12-digit** individual identification number issued by the Unique Identification Authority of India on behalf of the Government of India. The number serves as a **proof of identity and address**, anywhere in India.

### THE UIDAI ADVISORY

- The withdrawn notice had suggested holders use a **masked Aadhaar card** instead of the conventional photocopy, adding that the document must not be downloaded from a cybercafé or public computer and if done for some reason, must be permanently deleted from the system.
  - **‘Masked Aadhaar’** veils the first eight digits of the twelve-digit ID with ‘XXXX’ characters.
- The notice informed that only entities possessing a **‘User Licence’** are permitted to seek Aadhaar for authentication purposes.
- **Private entities** like hotels or film halls **cannot** collect or keep copies of the identification document.

### HOW DOES ONE KEEP ONE'S AADHAAR DATA SAFE?

- While a regular user **cannot control data breaches**, there are some steps to ensure that one's Aadhaar card number is not used by anyone else.
- **SOME OF THESE STEPS INCLUDE:**



### • TWO-FACTOR AUTHENTICATION:

- It is imperative that your **Aadhaar is linked to your primary mobile number and email ID**.
- This is where UIDAI will send the **one-time password (OTP)** if someone tries to access your Aadhaar account or using it for any verification.
- Aadhaar verification can only happen with this OTP.

### • MASKED AADHAAR COPY:

- You can download a 'Masked Aadhaar' copy from the official UIDAI website.
- You can then **share a photocopy or version of this**, instead of your full Aadhaar id.
- This version only has the **last four digits of your Aadhaar number**, instead of the full number.

### • LOCKING BIOMETRICS:

- If you are worried about misuse of your Aadhaar biometric data, you can also **lock it from the UIDAI website**.
- When you lock your biometrics (fingerprint, iris, and face), they can **no longer be used for authentication**.
- However, **OTP-based authentication** would continue to be available as needed.
- Users can lock this data **temporarily** or **permanently**, depending on preference, and it can be unlocked in both cases.

### • USE VID:

- The Virtual Identity, or VID, is a system of "**Limited KYC**" (Know Your Customer).
- This **hides the Aadhaar number** from the authenticating agency, while still confirming the identity of the user.
- This is a **16-digit number**, but **temporary** in nature.
- So, unlike the permanent 12-digit Aadhaar number, the VID is **valid only for some time**.
- The old VID expires when a new one is generated, and only one valid VID number can be there against a particular Aadhaar number at any given point in time.
- Users can also go to the Aadhaar website or app to see **authentication history** to know if the data has been used without their knowledge.

## WHAT DOES THE LAW SAY?

- The **Aadhaar (Targeted Delivery of Financial and Other Subsidies Benefits and Services) Act, 2016** makes it clear that Aadhaar authentication is **necessary** for availing subsidies, benefits and services that are financed from the Consolidated Fund of India.
- In the **absence of Aadhaar**, the individual is to be offered **an alternate and viable means of identification** to ensure she/he is not deprived of the same.
- Aadhaar has been described as a **preferred KYC** (Know Your Customer) document but **not mandatory** for opening bank accounts, acquiring a new SIM or school admissions.
- The requesting entity would have to obtain the **consent of the individual** before collecting his/her identity and ensure that the information is only used for authentication purposes on the Central Identities Data Repository (CIDR).
  - This centralized database **contains all Aadhaar numbers** and holder's corresponding demographic and biometric information.
- The regulator **does not receive or collect** the holder's bank, investment or insurance details.
- Additionally, the Aadhaar Act **forbids sharing Core Biometric Information** (such as finger print, iris scan, among other biometric attributes) for any purpose other than Aadhaar number generation and authentication.
- The Act makes it clear that **confidentiality** needs to be maintained and the authenticated information cannot be used for anything other than the specified purpose.
- More importantly, **no Aadhaar number** (or enclosed personal information) collected from the holder can be **published, displayed or posted** publicly.



- Identity information or authentication records would only be liable to be produced pursuant to an order of the High Court or Supreme Court, or by someone of the Secretary rank or above **in the interest of national security**.

### THE AADHAAR ACT 2016

- As per the **Aadhaar Act 2016**, regardless of age or gender, any resident of India may voluntarily enroll to obtain an Aadhaar number.
- The Aadhaar Act requires anyone who is a **resident of India** (or has lived in India for at least 182 days in the twelve months before the date of enrolment) to apply for an Aadhaar number by providing demographic and biometric information.
- The Aadhaar Act 2016 lays the **responsibility on the UIDAI** to secure individuals' identity information and authentication records.
- A **person** is **punishable** with imprisonment of up to three years and a fine of Rs 10 lakh (minimum) for unauthorized access to the centralized database, including revealing any information stored according to the Aadhaar Act.
- If a requesting **entity or an enrolling agency** violates the rules, their offences are punishable by up to one-year imprisonment, a fine of Rs 10,000, or Rs 1 lakh (for companies) as per the Aadhaar Act 2016.

### ABOUT UIDAI

- **The Unique Identification Authority of India (UIDAI)** is a **statutory authority** established under the provisions of the **Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 ("Aadhaar Act 2016")** under the Ministry of Electronics and Information Technology (MeitY).
- Prior to its establishment as a statutory authority, UIDAI was functioning as an **attached office of the then Planning Commission** (now NITI Aayog).
- Later, on 12 September 2015, the Government revised the Allocation of Business Rules to attach the UIDAI to the Department of Electronics & Information Technology (DeitY) of the then Ministry of Communications and Information Technology.
- UIDAI was created with the **objective** to issue Unique Identification numbers (UID), named as "Aadhaar", to all residents of India.
- **The UID had to be**
  - **robust** enough to eliminate duplicate and fake identities, and
  - **verifiable** and **authenticable** in an easy, cost-effective way.
- Under the **Aadhaar Act 2016**, UIDAI is responsible for Aadhaar enrolment and authentication, including operation and management of all stages of Aadhaar life cycle, developing the policy, procedure and system for issuing Aadhaar numbers to individuals and perform authentication and the security of identity information and authentication records of individuals.

### STRUCTURAL PROBLEMS THAT THE UIDAI FACES

- The **Aadhaar Data Vault** is where all numbers collected by authentication agencies are centrally stored.
  - Its **objective** is to provide a dedicated facility for the agencies to **access details only on a need-to-know basis**.
  - Comptroller and Auditor General of India's (CAG) latest report stipulated that UIDAI **neither specified any encryption algorithm** (as of October 2020) to secure the same **nor a mechanism to illustrate** that the entities were adhering to appropriate procedures.
  - It **relied solely on audit reports** provided to them by the entities themselves.
- Further, UIDAI's **unstable record with biometric authentication** has not helped it with de-duplication efforts, the process that ensures that each Aadhaar Number generated is unique.
- The CAG's reported stated that apart from the **issue of multiple Aadhaars** to the same resident, there have been **instances of the same biometric data being accorded to multiple residents**.

- The regulator relies on **Automated Biometric Identification Systems** for taking corrective actions.
  - Biometric authentications can be a cause of worry, especially for disabled and senior citizens with both the iris and fingerprints dilapidating.
  - Though the UIDAI has assured that no one would be deprived of any benefits due to biometric authentication failures, the absence of an efficient technology could serve as poignant premise for frauds to make use of their 'databases'.

### IS IDENTITY THEFT VIA AADHAAR POSSIBLE?

- As per the National Payment Corporation of India's (NPCI) data, **₹6.48 crore worth of financial frauds** through 8,739 transactions involving 2,391 unique users took place in FY 2021-22.
- Since the inception of the UID project, institutions and organisations have endowed greater focus on **linking their databases with Aadhaar numbers**, including for bank accounts especially in light of the compulsory linkage for direct benefit transfer schemes.
- The NPCI's **Aadhaar Payments Bridge (APB)** and the **Aadhaar Enabled Payment System (AEPS)** facilitate direct benefit transfer (DBT) and allow individuals to use Aadhaar for payments. This **requires bank accounts to be linked to Aadhaar**
  - This data **could be potentially used to fraudulently link the rightful beneficiary's Aadhaar with a distinct bank account**, embezzling the beneficiary by impersonation, made possible by the sizeable identity documents available.
- Brokers are known to **buy tonnes of Aadhaar documents** from mobile shops and other places where the identification document is shared.
- There have been instances where employees of service providers were **caught stealing biometric information** collected solely for Aadhaar authentication.
- **As for mobile verification, phone users in India are known to carry two or more phone numbers at one time.**
  - There could be a possibility that the number linked to the Aadhaar is not prominently used.
  - Fraudsters could use this as an opportunity to link their phone numbers instead, update it in the bank using the available information (of the individual) and deprive them of benefits or embezzle funds.

**National Payments Corporation of India (NPCI)**, an umbrella organization for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

### MUSLIM PERSONAL LAW

**Context:** The Punjab and Haryana High Court has held that a **Muslim girl above 15 years of age is competent to enter into a contract of marriage** with a person of her choice as per the Muslim Personal Law.

#### DETAILS

- Justice Jasjit Singh Bedi's assertion came during a **petition filed by a Muslim couple, who fell in love and solemnised their marriage recently**, as per Muslim rites and ceremonies.
  - Both the petitioners in Punjab's Pathankot had approached the High Court **seeking protection of life and liberty** from the respondents, including family members.
- **The marriage of a Muslim girl is governed by the Muslim personal law**, the judge said.

### MUSLIM PERSONAL LAWS IN INDIA

- In India, the term Muslim law **applies to the personal matters** concerning muslims.
- Hence the Muslim personal law governs the institutions of **marriage and divorce, adoption, succession and charity** in the Indian Islamic community. Though Islam is considered monolithic religion divisions exist on the basis of several sub sectarian practices. The most widely known of such a division is between the Schools of Shia and Sunni. Correspondingly, the Islamic law as practised in these communities exhibits subtle variations.

## DIFFERENT SCHOOLS:

- **Sunni School:** There are **four authorities** for Islamic law according to the Sunni School of thought which are:
  - The Quran
  - Haadis or Sunnat
  - Ijma
  - Qiyas
- **Shia School:**
  - In the Shia school, the authorities of law are **Quran, Hadith** and the **dictums of Imams**.
  - They **did not accept** the **Sunni view** of considering Qiyas as an acceptable source of law.
  - Besides the Shias **does not support those Haadis** compilations which emanate from households not related by blood to the prophet himself.
  - Thus, they **follow only compilations** such as AL-Kafi, and Tahdhib -UL-Abham as most authentic of all collections.
- **SHARI-AT ACT 1937**
  - It is the Shariat Act that consists of six sections that regulate the **application of Muslim personal law in India**.
  - Section 2 lists those matters which among Indian Muslims shall be invariably **governed by the Muslim Personal Law**.
  - These **include** interstate succession, special property females, gift, marriage, various forms of dissolution of marriage, dower, guardianship, maintenance, trusts, trysts properties and Wakafs.
  - However, matters concerning agriculture land, charities charitable institutions and charitable organization and religious endowments are **excluded from its purview**. They were excluded as they overlap with the existing state legislation.
  - According to **section 3** of the Act, adoption, wills, and legacies are also covered.
- **THE WAKF ACT, 1954**
  - The Act was aimed at **improving the administrative practices** with regard to Wakf boards.
  - Accordingly, the law provides for constitution of a Wakf board in every state.
- **MUSLIM MARRIAGE DISSOLUTION ACT**
  - It provides woman married under the Muslim law to **obtain a decree of dissolution** on various grounds on the side of husband such as cruelty, lack of correspondence, neglect, etc.

## ARE PERSONAL LAWS SPECIFIC TO MUSLIMS IN INDIA?

- Such legislations have been made over the years for **other religious groups** in India as well, thereby framing separate civil codes for different religions in the country.
- For instance, the **Hindu Succession Act of 1956** which lays out guidelines for property inheritance among Hindus, Buddhists, Jains and Sikhs.
- The **Parsi Marriage and Divorce Act of 1936** lays out rules to be followed by the Parsis according to their religious traditions.
- The **Hindu Marriage Act of 1955** had codified laws related to marriage among Hindus.
- Apart from these separate civil codes related to marriage, there exists a **Special Marriage Act** as well which was last amended in 1954.
  - It lays out provisions for **marital laws irrespective of the religion** to which the persons concerned belong. Muslims too can get married under this law.





# ECONOMY

## PROVISIONAL GDP ESTIMATES FOR 2021-22

**Context:** The **Ministry of Statistics and Programme Implementation (MoSPI)** will release the so-called “Provisional Estimates (or PEs)” of GDP for the last financial year (2021-22).

### What is GDP (Gross Domestic Product)?

The GDP measures the **monetary value of all “final” goods and services**—that is, those that are bought by the final user—produced in a country in a given period of time (say a quarter or a year).

### WHAT ARE PROVISIONAL ESTIMATES AND WHAT IS THEIR SIGNIFICANCE?

- The provisional estimates are important because they will be **the first formal estimates** of how India grew in the full financial year 2021-22.
- The provisional estimates (or PEs) will **add the data from the fourth quarter** (January to March) and thus provide the most complete picture of how India’s economy performed in 2021-22.
  - **India’s economy had contracted by 6.6% in 2020-21.**
- As such, the GDP growth in 2021-22 will tell us the **extent of India’s economic recovery**.
  - **Apart from telling us how robust was India’s recovery, the provisional estimates will also set the base on which the current financial year’s GDP growth will be calculated.**

### WHAT TO LOOK FOR IN PROVISIONAL ESTIMATES?

#### GDP AND GVA

- For any financial year, the **two main variables of national income** are **GDP** and **GVA** (or Gross Value Added).
  - The **GDP** calculates India’s national income by **adding up all the expenditures** in the economy
  - The **GVA** calculates the national income from the supply side by looking at **the value-added in each sector of the economy**.
- **Linkage between GDP and GVA:**
  - $\text{GDP} = (\text{GVA}) + (\text{Taxes earned by the government}) - (\text{Subsidies provided by the government})$ .
  - As such, if the government **earned more from taxes** than what it spent on subsidies, **GDP will be higher than GVA**.
  - If, on the other hand, the **government provided subsidies in excess of its tax revenues**, the absolute level of **GVA would be higher** than the absolute level of GDP.

#### SUB-COMPONENTS OF GDP

- Broadly speaking, GDP has **four engines of growth** in any economy.
- **Private Consumption:**
  - In India’s case, for instance, the biggest engine is **private consumption (C)** demand from individuals.
  - This demand typically **accounts for 56% of all GDP** and is technically called the “Private Final Consumption Expenditure” or PFCE.
- **Investment:**
  - The second-biggest engine is the money spent on investments (I).
  - This accounts for **32% of all GDP** in India;
  - It is technically called **Gross Fixed Capital Formation** or GFCF.
- **Government Expenditure:**
  - The third engine of GDP growth is the money spent by the government (G) towards meeting its day-to-day arrangements.

- This demand accounts for **11% of India's GDP**, and is called "Government Final Consumption Expenditure (GFCE)".
- **Net Exports:**
  - The fourth engine of GDP growth is the money spent on "Net Exports" (NX).
  - The NX is nothing but the money spent by Indians on foreign goods (that is, India's imports) **subtracted** from the money spent by foreigners on Indian goods and services (that is, India's exports).
  - Since in most years **India imports more than it exports**, the NX is the smallest engine of GDP growth and is **often negative**.
- So,  $GDP = C \text{ (or PFCE)} + I \text{ (or GFCF)} + G \text{ (or GFCE)} + NX$

## GVA SUB-COMPONENTS

- The provisional estimates include the **first official estimates for GVA** for the **fourth quarter** as well as the whole financial year.
- The sub-components of GVA tell us **which sectors of the economy are doing well** and which ones are struggling to grow.
- The below table shows the break-up of the economy into eight productive sectors and the GVA in each of them.

Industry	2019-20	2020-21 (FRE)	2021-22 (2nd AE)
1. Agriculture, Forestry & Fishing	19,82,303	20,48,032	21,15,040
2. Mining & Quarrying	3,21,766	2,94,024	3,30,945
3. Manufacturing	22,61,294	22,47,740	24,83,143
4. Electricity, Gas, Water Supply & Other			
Utility Services	3,00,675	2,89,771	3,12,264
5. Construction	10,38,680	9,62,835	10,58,642
6. Trade, Hotels, Transport, Communication & Services related to Broadcasting	26,89,726	21,47,679	23,97,525
7. Financial, Real Estate & Professional Services	28,97,393	29,61,910	30,89,768
8. Public Administration, Defence & Other Services*	17,27,639	16,33,081	18,37,372
<b>GVA at Basic Prices</b>	<b>1,32,19,476</b>	<b>1,25,85,074</b>	<b>1,36,24,699</b>

## EXPLORATION OF COUNTRY'S LARGEST GOLD RESERVE

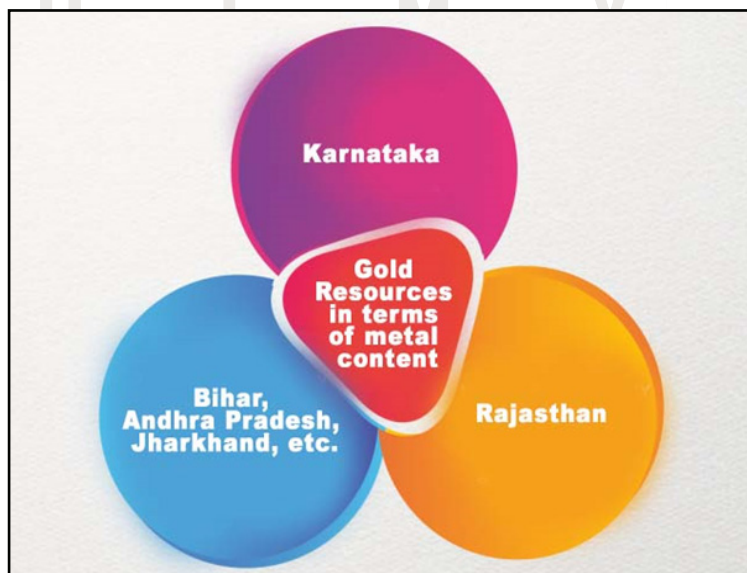
**Context:** The Bihar government has decided to accord permission for exploration of the "country's largest" gold reserve in Jamui district.

### DETAILS:

- As per a Geological Survey of India (GSI) survey, **around 222.88 million tonnes of gold reserve, including 37.6 tonnes of the mineral-rich ore**, are present in Jamui district.
  - GSI findings indicated the presence of gold in areas such as Karmatia, Jhajha and Sono in Jamui district.
- The government is likely to sign a MoU with a central agency or agencies for preliminary stage exploration within a month.

## GOLD RESERVES IN INDIA

- Gold production in India is insufficient and is imported from Australia, Canada, and Myanmar.



## WORLD GOLD COUNCIL REPORT

### • ACCORDING TO THIS REPORT:

- India's gold mine production stood at a mere **1.6 tonnes in 2020** but could rise to 20 tonnes per year in the long-term.
- India has a rich heritage of gold mining, but industry's growth has been hampered by **legacy processes** and **under-investments**.
- Despite India being one of the **world's largest consumers of gold**, the mining market operates on a small scale and is not an easy one to enter.
- India's current resources, when compared to production and resource levels in other countries, could reasonably be expected to support **annual output of approximately 20 tonnes per year** in the longer-term.

### • MAJOR ISSUES IN THIS SECTOR

- **Regulatory challenges:** The process of securing approval for a mining license is usually **lengthy**, involving multiple agencies and requires **10-15 approvals** for a single license.
- **Taxation policies:** **Import tax** on mining equipment and other direct and indirect taxes remain **high** compared to other countries. High import taxes **increase capital cost** and deter development.
- **Infrastructure:** Many of the key gold mining areas are in **remote locations** in states with **poorly developed infrastructure**.
- In particular, inadequate road and rail links can make moving materials to and from sites difficult and costly.
- As a result, there has **been limited investment** in gold exploration over the past 15 years.
- **Indian government has proposed and implemented various policy changes to help develop India's gold mining sector by addressing the most problematic areas.**
- In March 2015, the Parliament approved an amendment to the **Mines and Minerals (Development and Regulation) Act 1957 (MMDR)**, which allowed private companies to bid for mining leases via a competitive auction process and extended the period for major mining leases from 30 to 50 years.
- In June 2016, government approved the **National Minerals Exploration Policy (NMEP)** in an attempt to stimulate mining exploration, while in March 2019 the government announced the implementation of the **new National Mineral Policy (NMP 2019)** in an attempt to reduce bottlenecks and encourage development in the sector.

### MMDR Act, 1957

- **MMDR Act, 1957** regulates the mining sector in India and specifies the requirement for obtaining and granting mining leases for mining operations.
- The Act was **amended in 2015 to ensure transparency and non-discrimination in allocation of mineral wealth** of the country.
- The **Act has been further amended in 2021.**
  - Under the reforms, the Government has given a **major boost to auction of mineral blocks, increasing production, improving ease of doing business** in the country and increasing the contribution of mineral production to **Gross Domestic Product (GDP)**.
  - The reforms made are in the **provisions related to** statutory requirements, removal of end-use restrictions for captive mines and the division between captive and non-captive mines, transfer by auction of mineral-concessions, National Mineral Exploration Trust (NMET), National Mineral Index (NMI), the inclusion of private sector, and so on.
- The Ministry of Mines **has also taken steps to increase exploration of minerals**, which has led to the availability of more blocks for auction.
  - Exploration activities have increased **not only for traditional minerals** such as iron ore, bauxite, limestone but **also for deep-seated minerals, fertilizer minerals, critical minerals** and minerals which are imported.

## STATE-WISE DISTRIBUTION OF GOLD:

### • KARNATAKA –

- **Karnataka is the largest producers of Gold, accounts for about 80% of gold production.**
- Although every district of Karnataka has some reserves of Gold, the most important reserves are those of “**Kolar Gold Field**”. This field continues to be the largest supplier of Gold in India.
- Next to Kolar Goldfield, but far below in production, is the “**Hutti Mine**” in the **Raichur district**. The ore of Hutti Mine is of low grade.

### • ANDHRA PRADESH –

- **Andhra Pradesh is the second-largest producer of Gold**, though it lags far behind Karnataka.
- The main deposits of Gold are found in **Ramagiri in Anantapur District**. However, this field is nearly exhausted.
- Apart from Gold Mines, **Gold is also obtained as placer deposits i.e., in the sands of the river.**

### • JHARKHAND –

- Jharkhand is the **3rd largest producer of Gold** and accounts for about **10% of total gold production**.
- Here both ‘**Placer Deposits**’ in the sands of **Subarnarekha, Sonanadi, etc.**, and ‘**native Gold**’ in **Singhbhum District** and in some parts of **Chhota Nagpur plateau** are found.

### • KERALA –

- The river terraces along the **Punna Puzha and the Chabiyar Puzha** have some alluvial gold.



## UNICORN STARTUP

**Context:** Recently, the Indian Prime Minister **praised India's startup ecosystem** as he highlighted that the country has reached a **landmark figure of 100 unicorns** with a **valuation of more than \$300 billion**.

### WHAT IS A UNICORN STARTUP?

- Unicorns are privately held, venture-capital backed startups that have **reached a value of \$1 billion**.
- The valuation of unicorns is **not expressly linked to their current financial performance**, but largely based on their **growth potential as perceived by investors and venture capitalists** who have taken part in various funding rounds.
- **American venture capitalist Aileen Lee is credited with coining the term in 2013.**
- From the time the term was first used, it has become more common for startups to bag the unicorn tag, but the **\$1 billion valuation still gets industry attention**, and is considered an impressive achievement.

### FEATURES OF A UNICORN

- Mostly, all the unicorns have **brought a disruption in the field they belong to**, for example, Uber transformed commuting.
- The business model is **driven by the latest technological innovations** and trends.
- Their goal is to simplify things for consumers and **be a part of their day-to-day life**.
- **Keeping things affordable** is another key highlight of these startups.



- Most of the unicorns are **privately owned which gets their valuation bigger** when an established company invests in it.
- A recent report suggests that **87% of the unicorns' products are software, 7% are hardware and the rest 6% are other products & services.**

### INFORMATION BOX

Recently, **fourteen Indian companies** joined the unicorn club.

Currently, **India ranks third in overall unicorns created**, with the **United States** in first position, followed by China.

### GOVERNMENT INITIATIVES TO BOOST START-UP ECOSYSTEM

**Startup Innovation Challenges:** It is a fantastic opportunity for any startup to leverage their networking and fund-raising efforts.

**National Startup Awards:** It seeks to recognize and reward outstanding startups and ecosystem enablers that are contributing to economic dynamism by spurring innovation and injecting competition.

**Ranking of States on Support to Startup Ecosystems:** It is an evolved evaluation tool aimed to strengthen the support of States and UTs to holistically build their startup ecosystems.

**SCO Startup Forum:** The first-ever Shanghai Cooperation Organisation (SCO) Startup Forum was launched in October 2020 to develop and improve startup ecosystems collectively.

**Prarambh:** The 'Prarambh' Summit aims to provide a platform to the startups and young minds from around the world to come up with new ideas, innovation and invention.

### DUTCH DISEASE

**Context:** With volatility in global currency markets up again, debate on rupee's correct value has restarted with **experts suggesting that India may suffer from the Dutch disease.**

#### WHAT IS DUTCH DISEASE?

- Dutch Disease refers to a **phenomenon wherein a country witnesses uneven growth** across sectors due to the discovery of natural resources, especially large oil reserves.
- According to the concept, when a country discovers natural resources and starts exporting them to the rest of the world, it **causes the exchange rate of the currency to appreciate significantly** and this, in turn, **discourages the exports** from other sectors while **encouraging the import** of cheaper alternatives.
- The term 'Dutch disease' was first coined by The Economist in **1977** to describe the **decline of the manufacturing industry in the Netherlands.**
- **ORIGIN OF THE TERM**
  - In the **1960s**, the Netherlands discovered gas reserves in the North Sea.
  - The subsequent export of oil and the appreciation of the Dutch currency made Dutch exports of all non-oil products less competitive on the world market.
  - Unemployment rose from 1.1% to 5.1% and capital investment in the country dropped.
  - Following this, over the years, the country witnessed a downfall in the industrial sector.
- **THE MODEL FRAMEWORK:**
  - The framework of the model of the phenomenon is based on **three sectors:**
  - energy (traditionally oil, gas or mining resources),
  - tradeables, and
  - non-tradeables
- As labour and capital are immobile internationally, the Dutch disease is a **purely domestic phenomenon** which **cannot be exported.**

- The model is concentrated on the **spending and resource-movement** effects.
  - That is, exports of energy **generate additional revenue** for the factory owner and the government (through taxes), hence increasing the demand for tradeable and non-tradeable products in the country.
  - The boom in the energy sector forces labour to move out of trade and service sectors, creating a **shortage of manpower** in these two sectors.
  - This **reduces the output** in the trade and service sector due to the gap between supply and demand.
  - At the end, output in the **trade sector declines** and the **service sector stagnates**, resulting in the downfall of the economy in the long-run.
- **CRITICS OF THIS MODEL:**
  - Fredrick van der Pleog in 2011 explained that if the trade or manufacturing sector is more capital-intensive than the service sector, then the boom in the energy sector will be shifted to the trade sector resulting in an **absolute fall in the service sector**.

## HOW TO COMBAT THE DUTCH DISEASE?

- The **role of fiscal policy** can prevent the adverse effects of Dutch disease:
  - The role of fiscal policy is important to control the boom following the discovery of natural resources.
  - Rising income due to the export of natural resources should be **adjusted** with cautious spending on public welfare.
  - The **efficient use of revenues** coming from taxation can compensate for the adverse effects of the Dutch disease.
- **PROMOTE SPENDING POLICIES:**
  - **Public spending** such as concentrating on imports of tradeable rather than non-tradeable would help slow the impact of the Dutch disease.
  - **Private spending** in order to improve the productivity of private firms would also help reduce the impact.
- **MONETARY POLICY:**
  - The choice of an appropriate monetary policy is important for macroeconomic management in commodity-exporting countries.
  - With the discovery of natural resources, the country sees a huge inflow of money, especially foreign currency.
  - The export of natural resources tends to affect the equilibrium in the money and exchange rate markets.
  - The Dutch disease can be prevented **if the central bank raises the banking system reserve's requirement**, which decreases domestic credit.

### DUTCH DISEASE

- ☐ It is a situation when a country suffers negative consequences from having excessive valuable natural resources
- ☐ There is a huge influx of foreign money into the country

#### IMPACT

- BOP
- Growth & sustainability
- Stagnated development
- Unemployment
- Price instability

#### NEGATIVE ASPECT

- Reason why these countries suffers:
- ❖ Failed to focus & develop economic
  - ❖ Domestic currency appreciation driven by strong exports for resources has make other segments of economy globally uncompetitive

#### EXAMPLE

- ☐ Venezuela is rich in crude oil supplies
- ☐ Oil prices in the Venezuelan economy dropped from \$100 to \$21.5 per barrel
- ☐ Reasons is country's heavy dependence on export crude oil sales
- ☐ Oil sales constitute 99% of export earnings and one-fourth of country's GDP
- ☐ Due to falling prices their production hit new low
- ☐ GDP shrunk by two-thirds as demand for oil was affected due to pandemic

## LINK BETWEEN INFLATION AND RISING INTEREST RATES

**Context:** Recently the US central bank announced that it will raise interest rates by 75 basis points to bring down inflation to its target rate of 2%.

### WHAT IS INFLATION?

- Inflation is the rate at which the **prices for goods and services increase**.
- Inflation often **affects the buying capacity** of consumers.
- A 2% inflation implies the general price level in April this year was 2% more than what it was in April last year.
- A **rising inflation rate** implies that the rate (at which the prices rise) itself is increasing.

- Apart from making things costly, it essentially **erodes the basis on which one makes economic decisions.**

## EFFECTS OF INFLATION

- The purchasing power of a currency unit decreases when commodities and services grow more expensive.
- When inflation is high, the **cost of living rises** along with it, causing economic growth to decrease.
- A **certain level of inflation is required** in the economy in order to encourage spending while discouraging conserving.

## WHO MEASURES INFLATION?

- In India, the **Ministry of Statistics and Programme Implementation** monitors inflation.
- The **WPI** (Wholesale Price Index) and the **CPI** (Consumer Price Index) are **two main indices** used in India to monitor wholesale and retail price variations, respectively.
- The **CPI** is a price index that compares the prices of products and services **purchased by Indian consumers**, such as food, medical care, education, and electronic devices.
- The **WPI**, on the other hand, tracks the goods and services that **companies sell to smaller businesses for resale.**
- In India, both the WPI (Wholesale Price Index) and the CPI (Consumer Price Index) are used to determine inflation.

## CAUSES OF INFLATION

- **Demand-pull inflation** – aggregate demand growing faster than aggregate supply (growth too rapid)
- **Cost-push inflation** – For example, higher oil prices feeding through into higher costs.
- **Devaluation** – increasing cost of imported goods, and also the boost to domestic demand.
- **Rising wages** – higher wages increase firms costs and increase consumers' disposable income to spend more.
- **Expectations of inflation** – High inflation expectations causes workers to demand wage increases and firms to push up prices.

### What Causes Inflation?



**Cost-push Inflation:**  
When production cost rise and the producers pass the increase on to consumers.



**Demand-pull Inflation:**  
When demand for goods increases and exceeds production capacity.



## MEASURES TO CONTROL INFLATION

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*There are certain measures that are employed by the Central bank to restrict inflation and control cash flow.*



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### • Repo Rate

- Whenever commercial banks face a shortage of funds, they can approach the RBI for a loan.
- The **repo rate is the rate at which it would be possible for commercial banks to borrow money from the RBI.**
- Repo rate is often used by the government as a tool for inflation.
- Whenever the government wants to **restrict** the flow of money in the economy, it can **increase the repo rate** as a deterrence for commercial banks to borrow money.

### • CRR (Cash Reserve Ratio)

- CRR is another measure that excels in controlling the amount of money the commercial banks are able to circulate into the economy.
- This is because **CRR represents a certain amount of money that commercial banks are by law stipulated to keep with the RBI.**
- Inflation can be directly controlled by the RBI simply by means of **increasing the CRR rate** and thereby **restricting the ability of commercial banks to lend money.**

### • Reverse Repo Rate

- Reverse Repo rate is the **rate at which the RBI borrows from commercial banks.**
- This is part of a liquidity adjustment facility employed by central banks to resolve short term cash shortages that an economy might end up facing.
- Reverse repo rate is usually set **1 percentile lower than the existing repo rate.**
- This is also done in a bid to control inflation as reverse repo rate **helps RBI extract money from the economy** when it feels like there is excessive cash rolling about in the economy.

## BLACK SWAN EVENT

**Context:** A study by the Reserve Bank of India (RBI) has spoken about the possibility of **capital outflows to the tune of \$100 billion** from India in case of a major global risk scenario or a “black swan” event.

### WHAT IS A 'BLACK SWAN' EVENT?

- A black swan is a rare, unpredictable event that comes as a surprise and has a significant impact on society or the world.
- These events are said to have **three distinguishing characteristics** –
  - they are extremely rare and outside the realm of regular expectations;
  - they have a severe impact after they hit; and
  - they seem probable in hindsight when plausible explanations appear.
- The term itself is linked to the **discovery of black swans.**
  - Europeans believed all swans to be white until 1697, when a Dutch explorer spotted the first black swan in Australia.
  - The metaphor '**black swan event**' is derived from this **unprecedented spotting from the 17th century**, and how it upended the West's understanding of swans.

## BLACK SWAN EVENT

A **BLACK SWAN EVENT** in the finance world refers to an extremely negative rare event, which is impossible to predict. Such events are random & have wide-spread ramifications. It can either be **positive or negative**. The term is inspired by the possibility of seeing a black swan among a group of white swans.

### EXAMPLES

- ❖ Financial Crash of 2008 in U.S.
- ❖ Zimbabwe's hyperinflation in 2008
- ❖ The 2001 dot-com bubble
- ❖ The 9/11 attacks
- ❖ Brexit

### PLAN FOR UNCERTAINTY

- ❖ Think of rare events & that could prove catastrophic
- ❖ By strict financial regulations
- ❖ Strengthening the financial institutions
- ❖ Plugging the loopholes

### ATTRIBUTES

- I. Such an event is unpredictable to the observer.
- II. Such an event has widespread consequences.
- III. After the event, people will argue that it was predictable.



### • EVENTS IN THE PAST

- The **Global financial crisis (2008)**– a black swan event triggered by a sudden crash in the booming housing market in the US.
- The **fall of the Soviet Union**, the **terrorist attack in the US** on September 11, 2001, also fall in the same category.

## FOREIGN PORTFOLIO INVESTORS

**Context:** Foreign portfolio investors (FPIs) have been on a selling spree in India. Their selling actions have triggered a significant decline in benchmark indices resulting in a drop in market capitalization of companies.

### FOREIGN PORTFOLIO INVESTMENT

- Foreign portfolio investment (FPI) is a common way to **invest in overseas economies**.
- It includes **securities** and **financial assets** held by investors in another country.
  - Securities (in FPI) include **stocks** or **American Depositary Receipts (ADRs)** of companies in nations other than the investor's nation.
  - It also includes **bonds** or other debt issued by these companies or foreign governments, mutual funds, or exchange-traded funds (ETFs) that invest in assets abroad or overseas.
- On a macro-level, foreign portfolio investment is **part of a country's capital account** and shown on its balance of payments (BOP).
  - BOP calculates the amount of money flowing from one country to other countries over a financial year.
- FPI is **relatively liquid** depending on market volatility.
- It **does not give investors direct ownership** of a company's assets.
- They are generally **not active shareholders** and do not exert any control over the companies whose shares they hold.
- The passive nature of their investment also **allows them to enter or exit a stock at will** and with ease.

### FPI SURCHARGE

- In 2019, the government of India proposed an **increase in the tax surcharge** on super-rich tax payers who earn more than Rs 2 crore a year.
- While doing so, government included **all the individuals and association of persons (AOPs)** under the purview of the increased surcharge.
- The move spooked investors as the surcharge would have impacted 40 per cent of the FPIs.
- However, on August 23, 2019, giving in to the demands of overseas investors the government **removed enhanced surcharge on FPIs**.

### WHY HAVE FPIs BEEN SELLING INDIA HOLDINGS?

- FPIs sold assets worth ₹44,000 crore in May 2022.
- This is the **second highest sell-off** in a month since 1993, after March 2020.
- **Effect of the Pandemic**
  - Post-pandemic, recovery in the Indian economy has been uneven.
  - The second wave of the COVID-19 pandemic in 2021 devastated lives and livelihoods.
  - The economy stuttered again when a third, albeit less severe, wave saw the spread of the Omicron variant early this year.
  - Add to this the return of pent-up demand in economies worldwide as the pandemic subsided.
  - The pace of recovery caught suppliers off guard, contributing to supply-side shortages.
- **RUSSIA-UKRAINE CRISIS:**
  - Even as industry was grappling with this challenge, Russia launched an attack on Ukraine.
  - Sunflower oil and wheat supplies, for example from these two nations were impacted, leading to a rise in global prices for these crops.
  - As supplies in general tightened across the globe, commodity prices too rose and overall inflation accelerated.

- India witnessed a quickening pace in price rise that stayed above the Reserve Bank's upper comfort level of 6% for four months running, touching 7.8% in April.
- Industrial production too has seen a bumpy ride without giving confidence of a full and final recovery from the pandemic.
- Consumption expenditure too has remained weak in the subcontinent.
- **THE U.S. FEDERAL RESERVE RAISING THE BENCHMARK INTEREST RATE**
  - The key rate went up from 0-0.25% in March to 0.75-1% in May and is expected to rise by 50 basis points at each of the next two Fed meetings.
  - When the differential between the interest rates in the U.S. and other markets narrows, and if such an occurrence is accompanied by the strengthening of the dollar, then the **ability of investors to realise healthy returns is impacted**.
- With each of these factors contributing to a decline in confidence of robust economic performance, **foreign portfolio investors have been reducing market investments** over these past months
- Further, if **inflation quickens in the overseas market** where the investor has placed funds, then the real returns are even further impacted.
  - They then tend to exit assets seen as 'risky' such as in emerging markets like India, Brazil or South Africa.

## IMPACT

- When FPIs sell their holdings and repatriate funds back to their home markets, the **local currency takes a beating**.
- As supply of the rupee in the market rises, **its value declines**.
- With a weaker rupee, we have to shell out **more funds to import the same unit of goods**.
- The most telling impact is on the **cost of our crude oil imports** that contribute to 85% of our oil needs.

## A NOT-FOR-PROFIT COMPANY

**Context:** Recently, it was stated by a political organization that “**Young India**” has been created under a **special provision of the Companies Act — Section 25** — it has to be a not-for-profit company and no dividend can be given to its shareholders or directors.

## WHAT IS A SECTION 25 COMPANY?

- As per the **Companies Act, 1956**, a Section 25 company — similar to what is defined under **Section 8** under **Companies Act, 2013** — is a not-**for-profit charitable company** formed with the **sole object** of “promoting commerce, art, science, religion, charity, or any other useful object, and intends to apply its profits, if any, or other income in promoting its objects, and to prohibit the payment of any dividend to its members”.
- **Section 8** of the Companies Act, 2013 includes other objects such as **sports, education, research, social welfare** and **protection of environment** among others.
- It could be a **public or a private company**, a Section 25 company is **prohibited from payment of any dividend** to its members.

## The Companies Act, 2013

- The Companies Act, 2013 introduced **new concepts supporting enhanced disclosure, accountability, better board governance, better facilitation of business and so on**.
  - It includes associate company, one person company, small company, dormant company, independent director, women director, resident director, special court, secretarial standards, secretarial audit, class action, registered valuers, rotation of auditors, vigil mechanism, corporate social responsibility, E-voting etc.
- The Companies Act, 2013 has undergone amendments four times so far:
  - **The Companies (Amendment) Act, 2015**
  - **The Companies (Amendment) Act, 2017**
  - **The Companies (Amendment) Act, 2019**
  - **The Companies (Amendment) Act, 2020**

## EXAMPLES OF SECTION 25 OR SECTION 8 COMPANIES

- Reliance Foundation,
- Reliance Research Institute,
- Azim Premji Foundation,
- Coca Cola India Foundation,
- Amazon Academic Foundation.

## WHY ARE COMPANIES FORMED UNDER SECTION 25 WHEN THERE IS A TRUST STRUCTURE IN PLACE?

- Most people looking to form a charitable entity go for forming a company under Section 25, **now Section 8**, rather than a Trust structure **because most foreign donors like to contribute to a company rather than Trust** because they are more transparent and provide more disclosures.
- If a company has to be converted into a not-for-profit company, they **can't be converted into a Trust**, however, they **can be converted into a Section 25/ Section 8 company**.



### Self Notes



# ENVIRONMENT & GEOGRAPHY

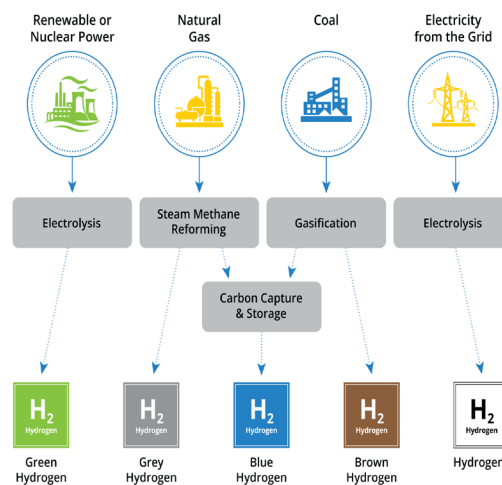
## GREEN HYDROGEN

**Context:** Recently, the Minister of Petroleum and Natural Gas said India will **emerge as the leader of green hydrogen**, while attending the **World Economic Forum** at Davos, Switzerland.

- He asserted that India is moving faster than any other country towards a green transition. We are **taking advantage of the current energy crisis** to accelerate this transition.

## WHAT IS GREEN HYDROGEN?

- Green hydrogen is hydrogen that is produced using renewable energy **through electrolysis**.
  - This method **uses an electrical current** to separate hydrogen from oxygen in water.
- If the electricity needed for electrolysis is generated from renewable sources such as solar or wind, the production of hydrogen in this way **emits no greenhouse gasses**.



\*Emissions depend on the mix of electricity sources on the grid

## HYDROGEN

Hydrogen is the **lightest and first element** on the periodic table. Since the **weight of hydrogen is less than air**, it rises in the atmosphere and is therefore rarely found in its pure form,  $H_2$ .

- It is a **colourless, odourless, tasteless, non-toxic and highly combustible** gaseous substance.
- It is the **lightest, simplest** and most abundant in the universe.

Hydrogen fuel is a **zero-emission fuel burned with oxygen**. It can be used in fuel cells or internal combustion engines. It is also used as a fuel for spacecraft propulsion.

Hydrogen can be **'grey' and 'blue'** too.

- **Grey** hydrogen is **generated through fossil fuels** such as coal and gas and currently accounts for 95% of the total production in South Asia.
- **Blue** hydrogen, too, is produced using electricity **generated by burning fossil fuels** but with technologies to **prevent the carbon released** in the process from entering the atmosphere.

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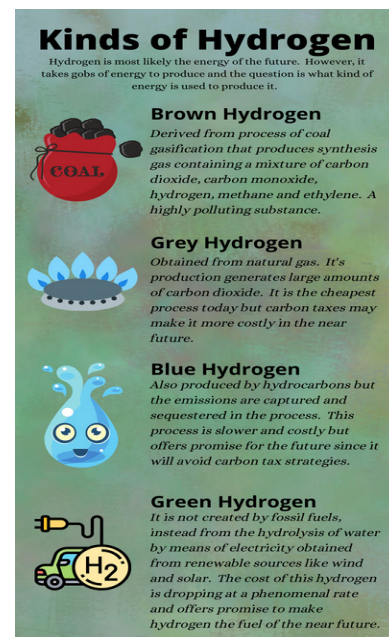
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## INDIA & GREEN HYDROGEN

- Under the **Paris Agreement** (a legally binding international treaty on climate change with the goal of limiting global warming to below 2°C compared to pre-industrial levels) of 2015, **India is committed to reducing its greenhouse gas emissions by 33-35% from the 2005 levels.**
- At the **2021 Conference of Parties in Glasgow**, India reiterated its commitment to move from a **fossil and import-dependent economy to a net-zero economy by 2070.**
- **India's average annual energy import bill is more than \$100 billion** and the increased consumption of fossil fuel has made the country a high carbon dioxide (CO<sub>2</sub>) emitter, accounting for nearly **7% of the global CO<sub>2</sub> burden.**
- **In order to become energy independent by 2047, the government stressed the need to introduce green hydrogen as an alternative fuel that can make India the global hub and a major exporter of hydrogen.**
  - The **National Hydrogen Mission** was launched on August 15, 2021, with a view to **cutting down carbon emissions** and increasing the use of renewable sources of energy.



## NATIONAL HYDROGEN MISSION

- The government has launched the National Hydrogen Mission (NHM) that **aims to boost the green hydrogen (hydrogen produced using renewable energy sources) infrastructure in the country** and transform India to a global green hydrogen hub for production and export of the fuel.
  - The NHM will be implemented along with the **government's production-linked scheme (PLI)**, which would apply on domestic sales and on exports.
- **Lack of investments and a weak demand** have kept the **Electric-Vehicle ecosystem** from flourishing in India.
  - **This is set to change drastically with the NHM**, especially for the hydrogen mobility sector, as the government will not only look at pure hydrogen driven vehicles but also vehicles running on alternative fuels such as methanol.
  - **Methanol can be produced using green hydrogen** and existing diesel buses and trucks can be converted to use methanol by utilising a conversion kit at a fraction of the cost of a new Zero-emissions vehicle.

Major bus fleets across the country will significantly **benefit from the low cost of methanol and save huge capital expenditure** in converting polluting diesel buses to run on methanol.

## ADVANTAGES OF HYDROGEN AS A FUEL

- Green hydrogen **can be stored for long periods of time.**
  - The stored hydrogen can be used to produce electricity **using fuel cells.**
- In a fuel cell, a device that **converts the energy of a chemical into electricity**, hydrogen gas reacts with oxygen to produce electricity and water vapour.
  - Hydrogen, thus, can act as **an energy storage device** and contribute to grid stability.
- **The oxygen, produced as a by-product (8 kg of oxygen is produced per 1 kg of hydrogen), can also be monetized by using it for industrial and medical applications or for enriching the environment.**

## WORLD ECONOMIC FORUM(WEF)

It is a **Swiss non-profit foundation** established in 1971, based in Geneva, Switzerland.

WEF is recognized by the Swiss authorities as the **international institution for public-private cooperation**.

It is committed to improving the state of the world by **engaging business, political, academic, and other leaders of society** to shape global, regional, and industry agendas.

### SOME MAJOR REPORTS PUBLISHED BY WEF ARE:

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

## BIODIVERSITY POLICY FOR CONSERVATION AND RESTORATION OF BIODIVERSITY

**Context:** NTPC (National Thermal Power Corporation) Ltd, India's largest integrated energy producer has issued renewed Biodiversity Policy 2022 to establish a comprehensive vision and guiding principle for conservation, restoration, and enhancement of biodiversity.

### ABOUT RENEWED BIODIVERSITY POLICY 2022

- Its objectives are **aligned with environmental and sustainability** policies.
- It aims to **mainstream the concept of biodiversity across NTPC's value chain and adopt a precautionary approach** for sustainable management of biodiversity in all the decision-making processes to ensure the Earth's variety of life in and around the business units of NTPC.
- The policy also aims to adopt systematic consideration of local threats to biodiversity **beyond the company's business activities**.
  - **NTPC was the first PSU to issue Biodiversity Policy in 2018.**
- As part of its capacity building, **NTPC is raising awareness among local communities, employees, and its associates across the supply chain about biodiversity through project-specific and national level trainings in collaboration with experts.**
  - **For example**, in a major initiative undertaken by NTPC, it has signed a five-year agreement with Andhra Pradesh Forest Department for conservation of Olive Ridley Turtles in the coastline of Andhra Pradesh.

### NTPC LIMITED

NTPC is **India's largest power utility with an installed capacity of 68,961.68 MW** plans to become a 130 GW company by 2032.

Established in 1975, NTPC aims to be the **world's largest and best power major**.

NTPC has **comprehensive Rehabilitation & Resettlement and Corporate Social Responsibility (CSR) policies** well integrated with its core business of setting up power projects and generating electricity.

The company is committed to **generating reliable power at competitive prices in a sustainable manner** by optimizing the use of multiple energy sources with innovative eco-friendly technologies thereby NTPC is contributing to the economic development of the nation and upliftment of the society.

## WHAT IS BIODIVERSITY?

It refers to the **variety of living species on Earth**, including plants, animals, bacteria, and fungi.

While Earth's biodiversity is so rich that many species have yet to be discovered, many species are being threatened with extinction due to human activities, putting the Earth's magnificent biodiversity at risk.

**Biodiversity Hotspot:** India is home to nearly **8% of global biodiversity on just 2.3% of global land area** and contains sections of four of the 36 global biodiversity hotspots.

**Staggering Economic Value:** While the precise economic value of all ecosystem services provided by biodiversity may not be known, estimates suggest that India's forests alone may yield services worth more than a trillion rupees per year.

Further, it can be imagined how much greater this value will be with grasslands, wetlands, freshwater, and marine can add.

**Protection From Natural Disasters:** The varied ecosystems across land, rivers, and oceans, feed our people, enhance public health security, and shield us from environmental disasters.

**Spiritual Enrichment:** Our biodiversity also serves as a perpetual source of spiritual enrichment, intimately linked to our physical and mental well-being.

## SYSTEM OF RICE INTENSIFICATION

**Context:** Experts believe that the System of Rice intensification **should be researched upon and put to use in order to save groundwater**, especially in the state of Punjab.

### SYSTEM OF RICE INTENSIFICATION

- System of Rice Intensification (SRI) was **first developed in Madagascar in the 1980s** and since then several countries in the world have been practising it, including India.
- It **promises to save 15 to 20% ground water**, improves rice productivity, which is almost at a stagnant point now.
  - It is a methodology for **increasing the productivity of irrigated rice** by changing the **management of plants, soil, water and nutrients** particularly by eliciting greater root growth.
- SRI is **not a technology** because something still evolving and improving, season by season, as more experience is gained and as more farmers, scientists and others apply their intelligence and insights to making rice production more efficient and sustainable.

### STEPS IN SRI

- Nursery area and Seed rate
- Seedling age
- Square planting
- Water management
- Mechanical (Cono) weeder usage

### SUITABLE SEASON

- **Dry season** with assured irrigation is more suitable.
  - **Difficulty** in crop establishment may be seen in areas with **heavy downpour** (NE Monsoon periods of Tamil Nadu)

### SOIL REQUIREMENTS

- SRI is suitable in **all types of soil including less fertile** soil as in such soil the number of seedlings can be increased to double.

## DOES THE SRI METHOD REQUIRE CONTINUOUS FLOODING AFTER TRANSPLANTATION OF NURSERY?

- In traditional sowing from the day of transplanting till the crop turns 35-40 days fields are kept under flood-like conditions.
- And then fields are filled every week till a few weeks before harvesting.

➤ **But SRI doesn't require continuous flooding, it needs intermittent irrigation.**

- The plants' roots **should not be starved for oxygen** through flooding.
- **Irrigation is given to maintain soil moisture** near saturation initially, and water is added to the field when the surface soil develops hairline cracks.

### • Saving in Seed requirement

- Since single seedling is planted at wider spacing.
- Seed requirement in SRI is only 7-8 kg per hectare.
- This is particularly useful in the case of hybrids where seed cost is very high.

### • Reduction in nursery area and nursery duration.

### • Increased tillering

- 30 tillers (shoots) per plant are fairly easy to achieve.

### • Profused root growth

- Greater force required to uproot SRI plants than conventional plants.

### • Improved grain filling

- Improvements in grain filling with larger panicles and higher panicle weight have been observed.

### • Water Savings

- Since the soil is kept moist only during vegetative growth phase and only minimal water is using during reproductive phase, SRI results in water savings to an extent of 35 to 40 % compared to conventional method.

### • Less Lodging

- SRI provides good growth environment for rice plants that put forth stronger tillers and extensive root growth and are more resistant to lodging.

### • Less incidence of pests and diseases

- As SRI plants are stronger, the incidence of pests and diseases is low.

### • Reduced chemicals fertilizer

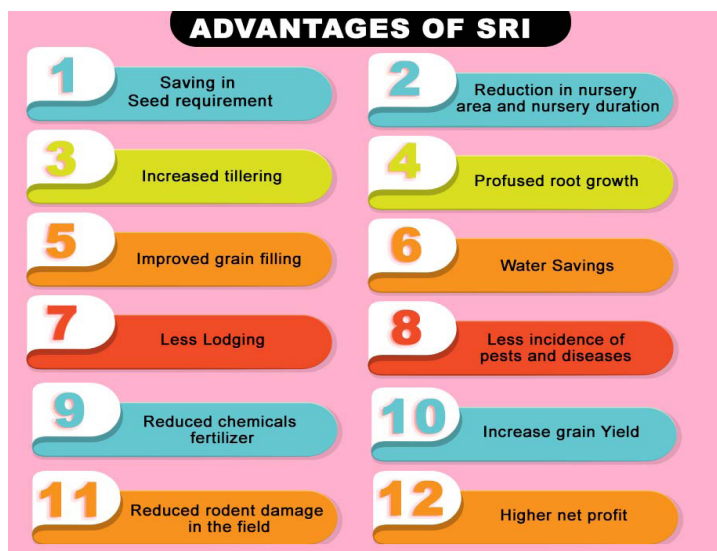
- Though chemical fertilizers increase the yield in SRI however resource poor farmers still can apply the locally available organic manures that still maintain higher yields while reducing the cost of externally purchased inputs.

### • Increase grain Yield-

- Higher grain yields are associated with SRI than conventional method.
- Increased net returns up to 83 to 206% depending on wage rate.

### • Reduced rodent damage in the field.

### • Higher net profit.





## Disadvantages

- Require **strict water control** practices
- Initially SRI method requires **more labourers**
- Requires **greater skill** for transplanting
- **Weed menace** is relatively higher than conventional transplanting.
- As SRI is labour intensive it is **not suitable for large scale production**.
- **Traditional mindset** of the farmers
- **Lack of awareness** about the technology
- Non availability of **critical implements** like marker and weeders
- **Lack of co-operation** from the transplanting labourers.

## UPSC CSE PRELIMS 2022- QUESTION ON SYSTEM OF RICE INTENSIFICATION

Q.) “System of Rice Intensification” of cultivation, in which alternate wetting and drying of rice fields is practised, results in:

1. Reduced seed requirement
2. Reduced methane production
3. Reduced electricity consumption

Select the correct answer using the code given below:

- [A] 1 and 2 only  
[B] 2 and 3 only  
[C] 1 and 3 only  
[D] 1, 2 and 3

ANSWER- [D]

## COMMUNITY FOREST RIGHTS

**Context:** The Chhattisgarh government has become only the **second state in the country to recognise Community Forest Resource (CFR) rights** of a village inside a national park.

### WHAT IS A COMMUNITY FOREST RESOURCE?

- The community forest resource area is the **common forest land** that has been **traditionally protected and conserved** for sustainable use by a particular community.
- The community uses it to access resources available **within the traditional and customary boundary** of the village and for seasonal use of landscape in case of pastoralist communities.
- Each CFR area has a **customary boundary** with identifiable landmarks recognised by the community and its neighboring villages.

Community Forest Resource may include forest of these category



### WHAT ARE COMMUNITY FOREST RESOURCE RIGHTS?

- The Community Forest Resource rights under Section 3(1)(i) of the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act** (commonly referred to as the Forest Rights Act or the FRA) provide for recognition of the **right to “protect, regenerate or conserve or manage” the community forest resource**.
- These rights allow the community **to formulate rules for forest use by itself and others** and thereby discharge its responsibilities under Section 5 of the FRA.
- CFR rights, along with Community Rights (CRs) under Sections 3(1)(b) and 3(1)(c), which include nistar rights and rights over non-timber forest products, **ensure sustainable livelihoods of the community**.
  - **These rights give the authority to the Gram Sabha to adopt local traditional practices of forest conservation and management within the community forest resource boundary.**

### IMPORTANCE OF CFR

- It is important as it **recognizes the community’s right** to use, manage and conserve forest resources, and to legally hold forest land that these communities have used for cultivation and residence.

- It also underlines the **integral role that forest dwellers play** in sustainability of forests and in conservation of biodiversity.
  - It is of greater significance inside protected forests like national parks, sanctuaries and tiger reserves as traditional dwellers then become a part of **management of the protected forests using their traditional wisdom**.
- **But while CFR rights are an important empowerment tool, getting a consensus amongst various villages about their traditional boundaries often proves a challenge.**

### THE FOREST RIGHTS ACT

- The Forest Rights Act (FRA), 2006 **recognizes the rights of the forest dwelling tribal communities** and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.
- The forest management policies, including the Acts, Rules and Forest Policies of Participatory Forest Management policies in both colonial and post-colonial India, did not, till the enactment of this Act, recognize the symbiotic relationship of the STs with the forests, reflected in their dependence on the forest as well as in their traditional wisdom regarding conservation of the forests.
- The Act **empowers the forest dwellers** to access and use the forest resources in the manner that they were traditionally accustomed, to protect, conserve and manage forests, protect forest dwellers from unlawful evictions and also provides for basic development facilities for the community of forest dwellers to access facilities of education, health, nutrition, infrastructure etc.

### OBJECTIVE:

- To undo the historical injustice occurred to the forest dwelling communities
- To ensure land tenure, livelihood and food security of the forest dwelling Scheduled Tribes and other traditional forest dwellers
- To strengthen the conservation regime of the forests by including the responsibilities and authority on Forest Rights holders for sustainable use, conservation of biodiversity and maintenance of ecological balance.

### UN-HABITAT LAYS OUT PLAN FOR PINK CITY

**Context:** Recently, the UN-Habitat has **identified multi-hazard vulnerabilities, urban sprawl, weak urban mobility and “green-blue disconnect”** as the pressing issues for Jaipur city.

### SUSTAINABILITY RATING AND RECOMMENDATIONS

- Jaipur has received an overall sustainability rating of three on the **Urban Sustainability Assessment Framework (USAF)** on the basis of data collected for 87 of its 131 parameters.
  - The project has received **funding from the Global Environment Facility (GEF-6)** to estimate the carbon sequestration potential of Indian cities.
- **Mitigating urban sprawl** remains a major challenge in the State capital, with the UN body emphasizing the concept of a compact city **with re-development and re-densification of the existing urban areas**.
- As an **indirect measure** to curb development on the city's outskirts, linking the distance from the main city to the development charges imposed on citizens could be considered.
- The project found that there are **about 800 dry wells** in Jaipur's Walled City that could be used as rainwater harvesting structures.

### GLOBAL ENVIRONMENTAL FACILITY (GEF)

GEF is a **multilateral financial mechanism** that provides **grants to developing countries for projects that benefit the global environment** and promote sustainable livelihoods in local communities.

It was set up as a **fund under World Bank** in 1991.

In 1992, **at the Rio Earth Summit**, the GEF was restructured and moved out of the World Bank system to become a permanent, separate institution.

- **Since 1994, however, the World Bank has served as the Trustee of the GEF Trust Fund and provided administrative services.**

It is based in Washington DC, United States.

**India is both donor and recipient of GEF.**

- This would **raise the water** table, mitigate urban floods and ensure efficient utilisation of water resources, as Jaipur has been facing extreme cases of drought during summer as well as urban floods, according to the project's findings.
- In order to increase green cover and promote biodiversity, "**eco-trails**" have been proposed across the city, with plantation along natural drainage channels and railway tracks.

### UN-Habitat: United Nations Human Settlements Programme

- The United Nations Human Settlements Programme, UN-Habitat, is the United Nations **agency for human settlements**.
- It is mandated by the UN General Assembly to **promote socially and environmentally sustainable towns and cities** with the goal of providing adequate shelter for all.
- The **main documents** outlining the mandate of the organization are the Vancouver Declaration on Human Settlements, Habitat Agenda, Istanbul Declaration on Human Settlements, the Declaration on Cities and Other Human Settlements in the New Millennium, and Resolution 56/206.

### ABOUT JAIPUR

- Founded in AD 1727 by **Maharaja Sawai Jai Singh II**, Jaipur, the capital of Rajasthan is popularly known as the **Pink City**.
- **Why Pink?**
  - The story goes that in 1876, the **Prince of Wales** visited India on a tour. Since the colour pink was symbolic of hospitality, **Maharaja Ram Singh of Jaipur** painted the entire city pink.
  - The pink that colours the city makes for a marvellous spectacle to behold.
- Planned by **Vidyadhar Bhattacharya**, Jaipur holds the distinction of being the **first planned city of India**.
- It is renowned globally for its **coloured gems**.
- Jaipur rises up majestically against the backdrop of the forts Nahargarh, Jaigarh and Garh Ganesh Temple.
- The city is one of the three corners of the **golden triangle** that includes Delhi, Agra and Jaipur.

### GLISCHROPUS MEGHALAYANUS

**Context:** Recently, Scientists have discovered a **new species of bamboo-dwelling bat** near the **Nongkhyllam Wildlife Sanctuary**.

#### DETAILS:

- The species, found near the forested patch of **Nongkhyllam Wildlife Sanctuary**, has been named **Glischropus meghalayanus**.
- The present discovery is the first report of a **thick-thumbed bat** not only from India but also from South Asia.
  - Thick-thumbed bats of the genus *Glischropus* are currently composed of **four recognised species from Southeast Asia**.
- The newly discovered species is **small in size** and has a **dark brown colour** with **Sulphur yellow belly**.
- **Bamboo-dwelling bats** are a particular kind of bats living in the internodes of bamboos with specialized morphological characters that help them to adopt to the life inside a bamboo.
- **Meghalaya** harbours the **highest bat diversity in the country with 67 species**, which is about 51% of total bat species in the country.
  - A few of these bat species from Meghalaya are **endemic to the region**.





## NONGKHYLLEM WILDLIFE SANCTUARY

Situated in the Ri-Bhoi district near Lailad village and spread over an area of 29 sq. kms, Nongkhylllem Wildlife Sanctuary is **one of the famous attractions of Meghalaya**.

The Sanctuary falls in the **Eastern Himalayan Global biodiversity hotspot**.

The sanctuary **supports different species of fauna** such as Royal Bengal Tiger, Clouded Leopard, Indian Bison, and Himalayan Black Bear etc.

Among the birds, the rare species which can be spotted here are Manipur Bush Quail, Rufous Necked Hornbill and Brown Hornbill.

## OTHER WILDLIFE SANCTUARY IN MEGHALAYA:

- Siju Wildlife Sanctuary
- Narpuh Wildlife Sanctuary
- Baghmara Pitcher Plant Sanctuary
- Nokrek National Park

## SINGLE-USE PLASTIC

**Context:** The Centre has banned the use of 'single-use plastic' from July 1.

### WHAT IS SINGLE-USE PLASTIC?

- It refers to plastic items that are **used once and discarded**.
- Single-use plastic has among the highest shares of plastic manufactured and used — from packaging of items, to bottles (shampoo, detergents, cosmetics), polythene bags, face masks, coffee cups, cling film, trash bags, food packaging etc.
- A **2021 report** by one of the Australian philanthropic organisations the Minderoo Foundation said single-use plastics account for a third of all plastic produced globally, with **98% manufactured from fossil fuels**.
  - Single-use plastic also accounts for the majority of plastic discarded – **130 million metric tonnes globally in 2019** — all of which is burned, buried in landfills or discarded directly into the environment.
  - On the current trajectory of production, it has been projected that single-use plastic could **account for 5-10% of greenhouse gas emissions by 2050**.
  - The report found that **India features in the top 100 countries of single-use plastic waste generation** – at rank 94 (the top three being Singapore, Australia and Oman).
  - With domestic production of 11.8 million metric tonnes annually, and import of 2.9 MMT, **India's net generation of single-use plastic waste is 5.6 MMT, and per capita generation is 4 kg.**



### WHAT ARE THE ITEMS BEING BANNED BY CENTRAL POLLUTION CONTROL BOARD (CPCB) ?

Earbuds

Balloon Sticks

Candy and Ice-cream Sticks

Cutlery items including plates, cups, glasses, forks, spoons, knives, trays

Sweet boxes

Invitation cards

Polystyrene for decoration

PVC banners measuring under 100 microns

Cigarette packs

According to the **Plastic Waste Management Rules, 2016**, there is also a complete ban on sachets using plastic material for storing, packing or selling gutkha, tobacco and pan masala.



## HOW WILL THE BAN BE ENFORCED?

- The ban will be monitored by the CPCB from the Centre, and by the State Pollution Control Boards (SPCBs) that will report to the Centre regularly.
- Directions have been issued at national, state and local levels — for example, to all petrochemical industries — to not supply raw materials to industries engaged in the banned items.
- Directions have also been issued to SPCBs and Pollution Control Committees to modify or revoke consent to operate issued under the Air/Water Act to industries engaged in single-use plastic items.
- Local authorities have been directed to issue fresh commercial licenses with the condition that SUP items will not be sold on their premises, and existing commercial licences will be cancelled if they are found to be selling these items.
- Those found violating the ban can be penalised under the Environment Protection Act 1986 – which allows for imprisonment up to 5 years, or a penalty up to Rs 1 lakh, or both.
- Violators can also be asked to pay Environmental Damage Compensation by the SPCB.
- In addition, there are municipal laws on plastic waste, with their own penal codes.

## OTHER COUNTRIES DEALING WITH SINGLE-USE PLASTIC

- Earlier this year, 124 countries, parties to the United Nations Environment Assembly, including India, signed a resolution to draw up an agreement which will in the future make it legally binding for the signatories to address the full life of plastics from production to disposal, to end plastic pollution.
- Bangladesh became the first country to ban thin plastic bags in 2002.
- New Zealand became the latest country to ban plastic bags in July 2019.
- China issued a ban on plastic bags in 2020 with phased implementation.
- As of July 2019, 68 countries have plastic bag bans with varying degrees of enforcement.
- On July 2, 2021, the Directive on Single-Use Plastics took effect in the European Union (EU).

## PHENOMENON OF LIGHTENING

**Context:** Seventeen people have been killed by lightning recently in various parts of Bihar

### WHAT IS LIGHTNING?

- In India, lightning kills about 2,000-2,500 people every year.
- Bihar is just one of the several hotspots for lightning in India, as a new atlas of lightning shows
- Scientifically, lightning is a rapid and massive discharge of electricity in the atmosphere some of which is directed towards earth.
- The discharges are generated in giant moisture-bearing clouds that are 10-12 km tall.
  - The base of these clouds typically lies within 1-2 km of the Earth's surface, while the top is 12-13 km away.
  - Temperatures in the top of these clouds are in the range of  $-35^{\circ}$  to  $-45^{\circ}\text{C}$ .
- As water vapour moves upward in the cloud, the falling temperature causes it to condense.
- As they move to temperatures below  $0^{\circ}\text{C}$ , the water droplets change into small ice crystals.
- They continue to move up, gathering mass until they are so heavy that they start to fall to Earth.
- This leads to a system in which, simultaneously, smaller ice crystals are moving up and bigger crystals are coming down.
- Collisions follow and trigger the release of electrons, a process that is very similar to the generation of sparks of electricity.
- As the moving free electrons cause more collisions and more electrons, a chain reaction ensues.

- This process results in a situation in which the top layer of the cloud gets positively charged, while the middle layer is negatively charged.
- The electrical potential difference between the two layers is huge, of the order of a billion to 10 billion volts.
- In very little time, a massive current, of the order of 100,000 to a million amperes, starts to flow between the layers.
- **While the Earth is a good conductor of electricity, it is electrically neutral.**
  - However, in comparison to the middle layer of the cloud, it becomes positively charged.
  - As a result, about 15%-20% of the current gets directed towards the Earth as well.
  - It is this flow of current that results in damage to life and property on Earth.
- Direct lightning strikes are rare but even indirect strikes are fatal given the immense amount of charge involved.

#### 2019-22: TOP 8 LIGHTNING-PRONE DISTRICTS

Over 2 lakh strikes each

- |              |                  |
|--------------|------------------|
| ■ Mayurbhanj | ■ Korba          |
| ■ Keonjhar   | ■ Jaisalmer      |
| ■ Purulia    | ■ Medinipur West |
| ■ Chandrapur | ■ Prakasam       |

Source: Lightning Annual Report 2021-22

### WHICH AREAS ARE LIGHTNING-PRONE?

- A recently released annual report on lightning by the Climate Resilient Observing Systems Promotion Council (CROPC) includes a lightning atlas which maps vulnerability at the district level.
- According to the report, Madhya Pradesh has reported the largest number of cloud to ground lightning strikes, followed by Chhatisgarh, Maharashtra, Odisha and West Bengal.
- Other states with high strike rate include Bihar, UP, Karnataka, Jharkhand and Tamil Nadu.

### LIQUID NANO UREA

**Context:** Recently Indian Prime Minister officially inaugurated the country's first liquid nano urea plant at Kalol.

#### ABOUT THE INDIGENOUS LIQUID NANO UREA

- It is essentially urea in the form of a nanoparticle.
- **Urea:**
  - Urea is a chemical nitrogen fertilizer, white in colour, which artificially provides nitrogen, a major nutrient required by plants.
  - The product has been developed at Indian Farmers Fertilizer Cooperative IFFCO's Nano Biotechnology Research Centre (NBRC) at Kalol.
- **Apart from reducing the country's subsidy bill, it is aimed at**
  - reducing the unbalanced and indiscriminate use of conventional urea,
  - increase crop productivity,
  - reduce soil, water, and air pollution
- **ADVANTAGES:**
  - While conventional urea has an efficiency of about 25 per cent, the efficiency of liquid nano urea can be as high as 85-90 per cent.
  - Conventional urea fails to have the desired impact on crops as it is often applied incorrectly, and the nitrogen in it is vaporized or lost as gas and a lot of nitrogen is also washed away during irrigation. Liquid nano urea is sprayed directly on the leaves and gets absorbed by the plant.
  - Fertilizers in nano form provide a targeted supply of nutrients to crops, as they are absorbed by the stomata, pores found on the epidermis of leaves.
  - Liquid nano urea has a shelf life of a year, and farmers need not be worried about "caking" when it comes in contact with moisture.
- The liquid nano urea produced by Indian Farmers Fertilizer Cooperative (IFFCO) Limited carries no burden of subsidy currently.
- A bottle of the nano urea can effectively replace at least one bag of urea.

## UPSC CSE PRELIMS (2020) QUESTION ON CHEMICAL FERTILIZERS

**With reference to chemical fertilizers in India, consider the following statements:**

1. At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

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

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

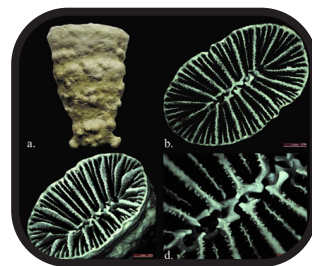
**Answer- b**

## AZOOXANTHELLATE CORALS

**Context:** Scientists have recorded four species of corals for the first time from Indian waters off the Andaman and Nicobar Islands

### About azooxanthellate corals

- These are a group of corals that do not contain zooxanthellae and derive nourishment not from the sun but from capturing different forms of planktons.
- They are deep sea representatives with the majority of species being reported from depths between 200 metres and 1,000 metres.
- They are also reported from shallow waters unlike zooxanthellate corals that are restricted to shallow waters.
- Azooxanthellate corals are a group of hard corals and the four new species recorded are not only solitary but have a highly compressed skeletal structure.



## WETLAND CONSERVATION

**Context:** Experts from the Wetlands International, a global non-profit, in a new white paper suggested global, science-based conservation efforts to protect and restore wetland. The suggestions come in the run up to the 15th Conference of Parties (CoP15) to the Convention on Biological Diversity to be held in Montreal, Canada and the 27th Conference of Parties (CoP27) to the UNFCCC in Egypt later this year.

### What are the main suggestions for wetland conservation?

- Remaining, undrained peatland carbon stores should be kept intact, and 10 million hectares of drained peatlands need should be restored
- Global mangrove cover of 20 per cent
- Preservation of free-flowing rivers and flood plains, along with enhancement of restoring floodplain ecosystem and its function in the area
- Identification of 50 per cent of the 7,000 critically important sites along the flyways to be brought under favourable management

#### Threats to wetland:

- Dense human population in catchment areas.
- Rapid urbanization.
- Drainage of wetlands for agricultural and construction activities causes harm to wetlands.
- The introduction of invasive species to wetlands damages the wetland ecosystems.
- Climate change is another major factor that acts as a threat to wetlands
- The construction of dams alters the flow of water to wetlands thus altering the healthy status of wetlands.

The actions are especially urgent since CoP15 was delayed four times and the planet is facing an ecological emergency with global destruction of biodiversity, the non-profit mentioned.

### What is a wetland?

Wetlands are defined as: "lands transitional between terrestrial and aquatic eco-systems where the water table is usually at or near the surface or the land is covered by shallow water".

## Global efforts for wetland conservation:

- **Ramsar Convention:** The Convention came into force in 1975 and is one of the oldest inter-governmental accord for preserving the ecological character of wetlands. India has total 49 wetlands including the most recently included Bakhira wildlife sanctuary in Uttar Pradesh and Khijadia Wildlife Sanctuary in Gujarat.
- **Montreux Record:** Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.

Wetlands of India that are in Montreux Record: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur). Chilka lake (Odisha) was placed in the record but was later removed from it.

## Wetland conservation in India:

1. **National Plan for Conservation of Aquatic Ecosystems (NPCA).** It is a centrally sponsored scheme, currently being implemented by the Union Ministry of Environment and Forests and Climate Change. NPCA seeks to promote better synergy and avoid overlap of administrative functions.
2. **Wetlands (Conservation and Management) Rules, 2017-**
  - As per the Wetlands Rules, the Wetlands Authority within a state is the nodal authority for all wetland-specific authorities in a state/UT for the enforcement of the rules.
  - Prohibited activities- Setting up any industry and expansion of existing industries. Dumping solid waste or discharge of untreated wastes and effluents from industries and any human settlements.
  - Integrated Management Plan: The guidelines recommend that the state/UT administration prepare a plan for the management of each notified wetland by the respective governments.
  - Penalties: Undertaking any prohibited or regulated activities beyond the thresholds (defined by the state/UT administration) in the wetlands or its zone of influence, will be deemed violations under the Wetlands Rules. Violation of the Rules will attract penalties as per the Environment (Protection) Act, 1986.

## Way Forward

- Demarcation of wetlands using the latest technology, proper enforcement of laws and stringent punishments for violators.
- Preventing unsustainable aquaculture and cultivation of shellfish.
- Treating industrial effluents and water from farmlands before discharging into wetlands.
- Artificial regeneration for a quick recovery.
- Eutrophication abatement by processing nutrient rich discharge into the water body
- Soil conservation measures & afforestation
- Wildlife conservation, sustainable tourism, eco-tourism and sensitizing local populace.

## INDIA'S CHANGING GOAL POSTS OVER COAL

**Context:** As per a letter by the Power Ministry, Coal India, the country's largest supplier of the dry fuel is set to import coal for the first time since 2015.

## THE MOVE AWAY FROM COAL

- The threat of global warming looms over the planet, promising to bring about unprecedented natural calamities.
- **An effective way to keep the danger at bay is to cut the use of fossil fuels — coal, natural gas and oil.**
  - About 80% of the world's energy requirements are met by these three fuels.
  - They have likely brought on the climate crisis we now face, as they trigger the emission of carbon dioxide.
- However, the worst culprit of them all is coal, which emits nearly twice as much carbon dioxide as natural gas and about 60% more than oil, on a kilogram-to-kilogram comparison.
- Combusting coal also leaves behind partially-burnt carbon particles that feed pollution and trigger respiratory disorders.



- The consequence of these chemical reactions gains great significance because, the power sector in India accounts for 49% of total carbon dioxide emissions, compared with the global average of 41%.

### INDIA'S COAL RESERVES

- Indian coal reserves are the third largest in the world, after the United States and China.
- India is the third largest coal producer in the world and the eighth largest importer.
- With annual production of 310 million tonnes and imports of almost 25 million tonnes, coal provides one-third of energy supply in India.
- In India, Gondwana coal makes up to 98 per cent of the total reserves and 99 per cent of the production of coal.

### INDIA'S DEPENDENCE ON COAL

- As of February 2022, the installed capacity for coal-based power generation across the country was 2.04 lakh megawatt (MW).
- This accounts for about 51.5% of power from all sources.
  - This compares with about 25,000 MW of capacity based on natural gas as fuel, or a mere 6.3% of all installed capacity.
  - Renewable power accounted for 1.06 lakh MW or 27%.
- Coal is still inexpensive compared with other sources of energy.
- According to the IEA's Coal Report 2021, India's coal consumption will increase at an average annual rate of 3.9% to 1.18 billion tonnes in 2024.
  - So, it is not easy to shift away from coal overnight.
- Natural gas has been dubbed as the transition fuel in India's plans to move away from coal.
- The international cost of natural gas has zoomed in the recent past from a level that was considered already too high to be financially viable.
  - The government put in place a committee to ensure that natural gas prices remained stable.
- Of the 25,000 MW of gas-based power plants, about 14,000 MW remains stranded, or idle, because they are financially unviable.
- While renewable energy sources are cheaper than coal, their ability to generate power consistently is subject to the whims of nature — the wind and the Sun.
  - Coal can give power on demand, while storage technologies are still not mature enough to help renewable energy sources become reliable generators of power.

### ENDANGERED MARINE SPECIES

**Context:** The Maharashtra government has given compensation of Rs 44 lakh to as many as 288 fishermen for setting protected marine species which were caught in their nets free in the past three years.

#### Details:

- This is part of the state's efforts to save the marine ecosystem and several protected species in it.
- **The marine species released by the fishermen include**
  - Whale Shark,
  - Giant Guitarfish,
  - Humpback Dolphin
  - Indo-Pacific finless porpoise
  - All of them are protected under the Wildlife (Protection) Act, 1972.
- The compensation scheme is a joint effort by the Mangrove Cell and Mangrove Foundation, and the Fisheries Department of Maharashtra.

- **Need of such compensation scheme:**

- Frequently, protected marine species like turtles, sharks, dolphins, Sawfish and Guitarfish, among others, get caught in fishing nets, said an official of the Fisheries Department.
- Catching and trading these species is a crime and the fishermen are supposed to release them in the sea.
- But in the process, they usually have to cut their net and hence they incur losses as they have to procure a new net.
- Due to this, many fishermen end up not releasing the marine species back into the sea. The scheme was introduced to encourage fishermen to release the protected species, for which they receive compensation.

- The maximum compensation is Rs 25,000 while the minimum compensation is Rs 8,000.

- The government had also mentioned in the GR that each fisherman can apply for compensation only thrice a year.

## WILDLIFE PROTECTION ACT (1972)

- The Wildlife Act was passed in 1972 to protect the wildlife and their habitats.
- It provides for the appointment of wildlife advisory Board, Wildlife warden, their powers, duties etc.
- **It aims for**
  - Becoming a party to the Convention of International Trade in Endangered Species of Fauna and Flora (CITES, 1976).
  - Launching a “national component of UNESCO’s ‘Man and Biosphere Programme’ (1971).
- Under the Act, comprehensive listing of endangered wildlife species was done for the first time and prohibition of hunting of the endangered species was mentioned.
- It provides protection to some endangered plants.
- The Act provides for setting up of **National Parks, Wildlife Sanctuaries etc.**
- The Act provides for the constitution of Central Zoo Authority.
- There is provision for trade and commerce in some wildlife species with license for sale, possession, transfer etc.
- The act imposes a ban on the trade or commerce in scheduled animals.
- It provides for legal powers to officers and punishment to offenders.
- It provides for captive breeding programme for endangered species.
- Several Conservation Projects for individual endangered species like **Lion (1972), Tiger (1973), Crocodile (1974) and Brown antlered Deer (1981)** were stated under this Act.

### Whale Shark

- Whale sharks are the **largest shark**, and indeed **largest of any fishes alive today** and they **travel large distances** to find enough food to sustain their huge size, and to reproduce.
- The whale shark is a ‘**filter feeder shark**’ which means it does not eat meat like other sharks. Whale sharks **filter sea water** and **feed on tiny planktons**.
- Whale sharks are **found in all the tropical oceans** of the world.

#### Protection Status:

- **IUCN Red List:** Endangered
- **CITES:** Appendix II
- **Indian Wildlife Protection Act, 1972:** Schedule I

### Wedgefishes and Giant Guitar fishes

- Wedgefish are **shallow water coastal species**, found in northern Indian Ocean and northwestern Pacific Ocean.
- Alongwith giant **guitarfishes**, they are collectively known as **Rhino Rays** because of their elongated snouts.

- They have been listed as the ‘**most imperilled marine fish families in the world**’.
- The main drivers of the decline are the **loss of free flowing rivers and increasing agricultural and urban pollution**.
- The IUCN has listed it under **vulnerable category**.

### Humpback dolphins

- The Indian Ocean Humpback Dolphin occurs within the Indian Ocean from South Africa to India.
- The International Union for Conservation of Nature (IUCN) categorizes **the Indian Ocean Humpback Dolphin as Endangered (Source: Wiki)**.
- In India, Dolphins are endangered cetacean species, protected under Schedule I of the Wildlife Protection Act, 1972.
- Indian Humpback Dolphin is listed in Appendix I of The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

### Finless Porpoise

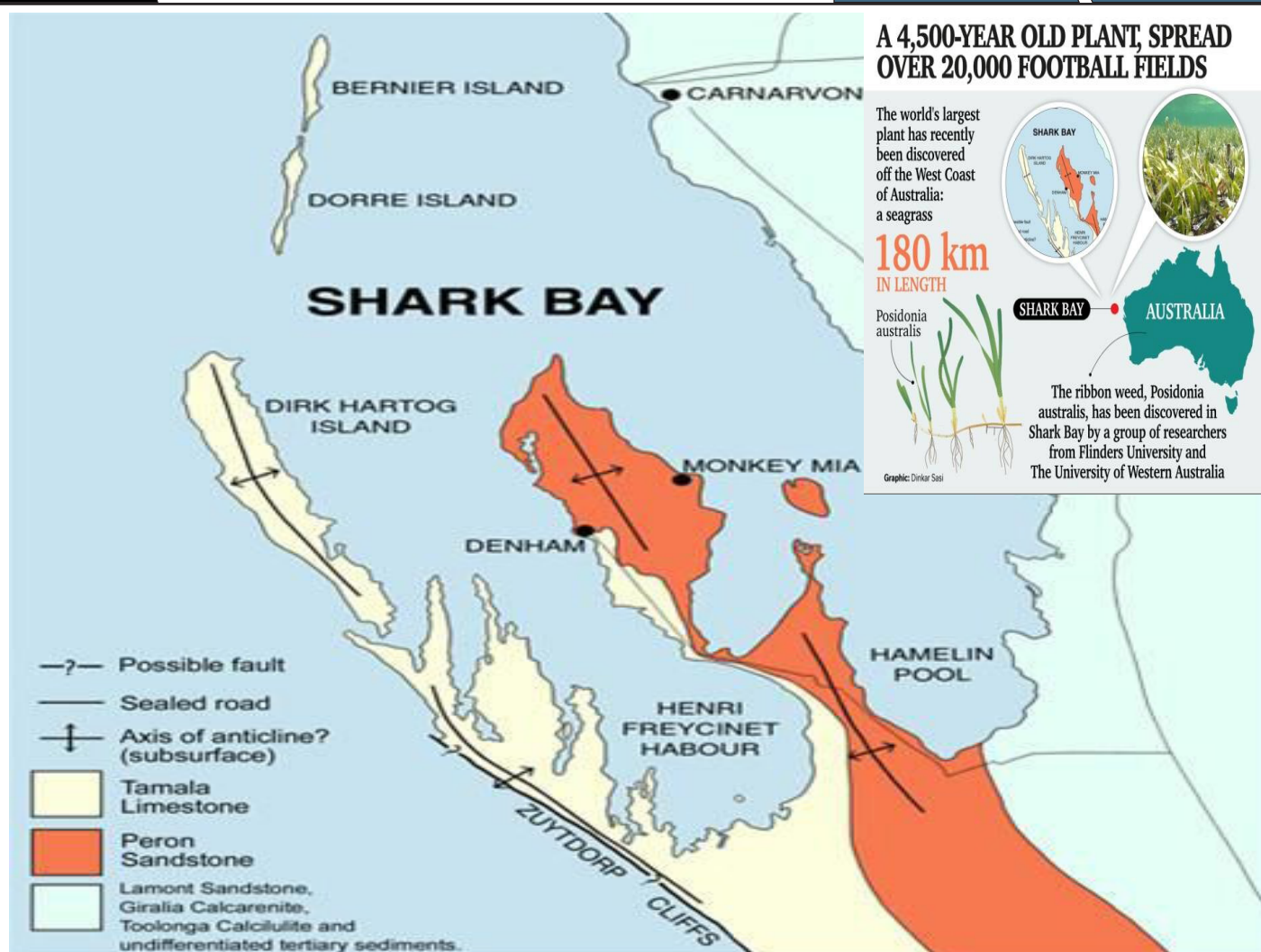
- **Habitat:** The finless porpoise originally inhabited salt water niches along the coast of the Indo-Pacific Ocean.
- **Conservation Status:**
- **IUCN Red List:** Critically Endangered
- **CITES:** Appendix I

## LARGEST PLANT IN THE WORLD

**Context:** The world’s largest plant has recently been discovered off the West Coast of Australia: a seagrass 180 km in length.

### ABOUT THE PLANT

- The **ribbon weed**, or **Posidonia australis**, has been discovered in **Shark Bay**.
- The plant is **4,500 years old**, is sterile, has double the number of chromosomes than other similar plants, and has managed to survive the volatile atmosphere of the shallow Shark Bay.
- The ribbon weed **covers an area of 20,000 hectares**.
- The existence of the seagrass was known, that it is one single plant was not.
- Ribbon weed rhizomes can **usually grow to around 35cm per year**, which is how the scientists arrived at its lifespan of 4,5000 years.
- The ribbon weed **cannot spread its seeds**, something that helps plants overcome environmental threats.
- Also, Shark Bay sees **fluctuations in temperature** and salinity and gets a lot of light, conditions challenging for any plant.
- Yet the ribbon weed has managed to survive, and a part of the reason may be that it is a **polyploid** – instead of taking half-half genome from both parents, it took **100 per cent, something not unheard of in plants**.
- Therefore, this ribbon weed has **twice the number of chromosomes** other plants of the same variety have.
- The Shark Bay ribbon, thus, has **served as sinkhole**, hospitable city, and firewall for centuries.
- The **second largest plant** is the **clonal colony** of a quaking Aspen **tree** in Utah, which covers 43.6 hectares.
- The **largest tree in India**, the **Great Banyan in Howrah’s Botanical Garden**, covers 1.41 hectares.

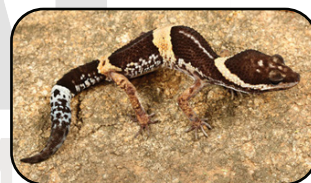


## PAINTED LEOPARD GECKO

**Context:** A gecko found in Visakhapatnam in 2017, then thought to belong to a known species, has now been identified as a member of a new species.

### DETAILS:

- The species, *Eublepharis pictus*, also known as the Painted Leopard Gecko had been initially identified as an East Indian Leopard Gecko (*Eublepharis hardwickii*).
  - Now, a phylogenetic study and morphological comparisons have distinguished it as a new species, which appears to be common in the forests of Andhra Pradesh and Odisha.
- The gecko genus *Eublepharis* now has 7 species.
- The species occurs outside protected areas.



## WHAT ARE GECKOS?

Geckos are reptiles and are found on all continents except Antarctica.

These colorful lizards have adapted to habitats from rainforests, to deserts, to cold mountain slopes.

Most geckos are nocturnal, which means they are active at night, but day geckos are active during the day and depend on insects, fruits, and flower nectar.

**Geckos are spread across six families:** Carphodactylidae, Diplodactylidae, Eublepharidae, Gekkonidae, Phyllodactylidae, and Sphaerodactylidae.



## NEW INITIATIVES BY GEM TO PROMOTE SUSTAINABLE PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES

**Context:** Government eMarketplace [GeM] is promoting sustainable public procurement [SPP] of products and services in association with the United Nations Environment Program [UNEP].

### The Initiatives:

#### • SPP of Products on GeM

- Green Room Air Conditioners were launched on GeM.
- The purchase of Green RACs is on a voluntary basis. and the faster adoption of such products by government buyers will pave the way for realizing India's Nationally Determined Contributions [NDC] and its commitment towards Sustainable Development Goal [SDG] 12.
- **SDG 12:** "Ensure Sustainable Consumption and Production Patterns"
- **Special emphasis on target 12.7** – aims to "Promote public procurement practices that are sustainable, in accordance with national policies and priorities."
- GeM has created marketplace filters to help government buyers identify solar-powered renewable products such as inverters, streetlights, torch lights, study lamps, water heating systems, and battery-powered e-rickshaws for passengers.
- Daily use products for pollution tracking, monitoring and rehabilitation, refuse disposal and treatment of hazardous and non-hazardous waste including sewage treatment are already listed and available for procurement on the portal.
- GeM has introduced "**The Green Gold Collection**", a dedicated online market store to showcase a range of bamboo accessories for potential use in the construction sector and exquisitely handcrafted bamboo handicrafts, daily-utility products/ disposals for government buyers. Bamboo producers will be able to list their products under different product categories.

#### • SPP of Services on GeM

- Notable services with a sustainable procurement component include:
- Lease hiring of electric vehicles [short and long-term] for senior officers including operations and maintenance,
- Event and monthly-based hiring of air conditioners and desert coolers including supply, installation and maintenance for required number of days or contract period,
- Energy efficiency services namely, energy conservation and energy audit services and hiring of consultant for energy efficiency services/ projects,
- Waste Management services - biomedical waste management services, collection and disposal of waste management services, e-waste management, garbage collection and disposal, and municipal sewage waste,
- Water Conservation, including rejuvenation of water bodies, and testing of water quality,
- Annual maintenance contracts [AMC] for solar plant, wind, hydro and bio plants, and
- Water audit and afforestation services - plantation and tree translocation services, to name a few.
- Housekeeping service with eco-friendly chemical cleanliness and conservancy of office premises, hospitals and guest houses etc.
- Operation and Management of Electric Buses is available on GeM where buyers can hire electric buses with its operation and maintenance.

- GeM is working towards the launch of a new service "Green Transition Service" on the GeM portal for buyers who seek a structured framework to achieve carbon neutrality and aim for being net zero Carbon emissions in their operations.
- Service components will include
  - estimation and preparation of GHG emissions inventory,
  - developing methodology for accounting of GHG emissions,
  - preparation of detailed project reports on calculation of carbon footprint, milestones,
  - implementation and monitoring plan for the assessment year,
- **New Functionalities to promote SPP**
  - **Forward Auction:**
    - It provides opportunities for government buyers/ auctioneers to auction on the GeM portal and potential bidders can participate in these bids to purchase the fully-depreciated and or obsolete assets using the auction mode.
  - **Buyback option:**
    - It permits sellers to quote the price of new goods along with the price offered for old goods as buy back.
    - Government buyers can now exercise this option at the time of creating bids on GeM to dispose their obsolete assets and procure new products.

### INDIA'S TARGETS UNDER PARIS AGREEMENT FOR 2030

- Reducing greenhouse gas emission intensity of its GDP by 33-35% below 2005 levels by 2030
- Forty percent of its power capacity to be based on non-fossil fuels
- Create an additional 'carbon sink' of 2.5-3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030

### RECORDED ACHIEVEMENT

- Emission intensity of GDP reduced by 21 per cent below 2005 levels by 2014.
- 35% of power capacity based on non-fossil fuels achieved by March 2018.
- Emissions avoided by forest cover fall by more than half between 2010-14. Those by tree cover double in the same period.

## ELECTRONIC WASTE MANAGEMENT RULES

**Context:** Over the next five years, Delhi-NCR-headquartered Attero Recycling expects to invest close to \$1 billion in expanding their electronic waste recycling facilities due to the mandatory recycling targets set for electronics-goods makers under the Electronic Waste Management Rules, 2016.

### MEANING OF E-WASTE

- **Electronic waste includes waste from electronics, including**
  - discarded mobile phones,
  - refrigerators,
  - electronic office equipment,
  - computers,
  - television sets
  - electronic entertainment devices.
- "Electronic waste" may be defined as discarded computers, office electronic equipment, entertainment device electronics, mobile phones, television sets, and refrigerators.
- This includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal.
- Others are re-usable (working and repairable electronics) and secondary scrap (copper, steel, plastic, etc.) to be "commodities", and reserve the term "waste" for residue or material which is dumped by the buyer rather than recycled, including residue from reuse and recycling operations.
- 'e-waste' means waste electrical and electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer as well as reject from their manufacturing, refurbishment and repair processes.



## VARIOUS ACTS AND RULES FOR THE MANAGEMENT AND RE-USE OF E-WASTE:

- Hazardous Waste (Management and Handling) Rules, 1989;
- Bio-Medical Waste (Management and Handling) Rules, 1998;
- Batteries (Management and Handling) Rules, 2001
- Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008;
- E-Waste (Management and Handling) Rules, 2011;
- E-Waste (Management) Rules, 2016.



### BENEFITS OF RECYCLING:

- By dismantling and providing reuse possibilities, intact natural resources are conserved and air and water pollution caused by hazardous disposal is avoided.
- Recycling reduces the amount of greenhouse gas emissions caused by the manufacturing of new products.

### ENVIRONMENTAL (PROTECTION) ACT, 1986

- The Environmental (Protection) Act, 1986 comprehensively deals with environmental problems.
- Section 6 expressly empowered the Central Government to make rules on various items including
  - the procedures and safeguards for the handling of hazardous substances and
  - the prohibition and restriction on the handling of hazardous substances in different areas.

### E-WASTE (MANAGEMENT) RULES, 2016

- The Central Government in the exercise of the powers provided under Sections 6, 8 and 25 of the Environment (Protection) Act, 1986 has notified these rules.
- E-Waste (Management) Rules, 2016 supersede the E-Waste (Management and Handling) Rules, 2011.
- The rules aim to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment.
- These rules shall apply to every Producer, Consumer and Bulk Consumer, Manufacturer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in the manufacture, sale, purchase and processing of electrical and electronic equipment, including their components, consumables, parts and spares which make the product operational
- **It shall not apply to-**
  - Used lead acid batteries as covered under the Batteries (Management and Handling) Rules, 2001 made under the Act;
  - Micro enterprises as defined in the Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006); and
  - Radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and Rules made there under.

### KEY POINTS RELATED TO E-WASTE RULES, 2016:

- **RESPONSIBILITIES OF MANUFACTURER:**
  - The manufacturer shall be responsible to collect e-waste generated during the manufacture of any electrical and electronic equipment and channelise it for recycling or disposal;
  - The manufacturer shall ensure that no damage is caused to the environment during storage and transportation of e-waste and also file annual returns to the concerned State Pollution Control Board.

- **RESPONSIBILITIES OF PRODUCER:**

- The producer shall be responsible for the collection of e-waste generated from the 'end of life' of their products and channelizing it for recycling or disposal.
- To ensure that such e-waste is channelized to registered dismantler or recycler.
- The import of electrical and electronic equipment shall be allowed only to producers having Extended Producer Responsibility authorization and also filing annual returns to the Central Pollution Control Board.
- The producer shall also be responsible for providing contact details such as address, telephone numbers/helpline numbers to consumer(s) or bulk consumer(s) so as to facilitate return of used electrical and electronic equipment.
- Further, the producer shall be responsible to create awareness among consumers or bulk consumers with regard to hazardous constituents, hazards of improper handling and improper recycling of e-waste and instructions for handling the equipment after its use.

- **RESPONSIBILITIES OF COLLECTION CENTERS:**

- The collection centres are responsible to collect e-waste on behalf of producer or dismantler or recycler or refurbisher.
- The collection centre shall also ensure that e-waste collected by them is stored in a secured manner and no damage is caused to the environment during storage and transportation.
- The collection centre shall file annual return to State Pollution Control Board on or before the 30th day of June and also maintain the records of the e-waste.

- **RESPONSIBILITIES OF DEALERS:**

- The dealer shall collect the e-waste by providing the consumer a box, bin or a demarcated area to deposit e-waste, or through take back system and send the e-waste so collected to collection centre or dismantler or recycler.
- The dealer or e-retailer shall refund the amount as per take back system to the depositor of e-waste;
- Every dealer shall ensure that the e-waste thus generated is safely transported to authorized dismantlers or recyclers and no damage is caused to the environment during storage and transportation of e-waste.

- **RESPONSIBILITIES OF THE REFURBISHER:**

- Refurbisher is responsible to collect e-waste generated during the process of refurbishing and channelise the e-waste to authorized dismantler or recycler through its collection centre
- The refurbisher shall ensure that no damage is caused to the environment during storage and transportation of e-waste.
- The refurbisher shall also file annual returns to the concerned State Pollution Control Board.

- **RESPONSIBILITIES OF CONSUMER OR BULK CONSUMER:**

- Consumers or bulk consumers shall ensure that e-waste generated by them is channelized to authorized collection centre or registered dismantler(s) or recycler(s) or returned to the pick up or take back services provided by the producers and
- They shall maintain the records of e-waste generated by the bulk consumer.

- **RESPONSIBILITIES OF DISMANTLER:**

- Every dismantler shall obtain authorization and registration from the State Pollution Control Board.
- Also, the dismantler shall ensure that no damage is caused to the environment during storage and transportation of e-waste, no adverse effect on health and environment.
- Also, the dismantling processes shall be in accordance with the guidelines published by the Centre Pollution Control Board from time to time.
- The dismantler shall also ensure that non-recyclable or non-recoverable components are sent to authorized treatment storage and disposal facilities.

- **RESPONSIBILITIES OF RECYCLERS:**

- Every recycler shall ensure that the facility and recycling process shall be in accordance with the guidelines of the Central Pollution Control Board from time to time
- They shall ensure that residue is disposed of in a hazardous waste treatment storage disposal facility.



## EXTENDED PRODUCER RESPONSIBILITY

Extended producer responsibility (EPR) is an **environmental protection strategy** aimed at **decreasing total environmental impact from a product and its packaging**, by ensuring that the producers of the product take responsibility for the entire lifecycle of their products especially in the take-back, recycling, and **final disposal of their products**, including its packaging. **The primary responsibility of EPR lies with the producer, who makes designs and marketing decisions.**

### AMENDMENTS IN E-WASTE MANAGEMENT RULES 2016

- The E-Waste Management Rules 2016 have been **amended in 2018**.
- The amendment in rules has been done with the **objective** of channelizing the E-waste generated in the country towards authorized dismantlers and recyclers in order to **formalize the e-waste recycling sector**.
- The collection targets under the provision of **Extended Producer Responsibility (EPR)** in the Rules have been **revised** and targets have been introduced for new producers who have started their sales operations recently.
- Salient features:
- **The e-waste collection targets under EPR have been revised.**
  - The phase-wise collection targets for e-waste in weight shall be 10% of the quantity of waste generation as indicated in the EPR Plan during 2017-18, with a 10% increase every year until 2023.
  - After 2023 onwards, the target has been made 70% of the quantity of waste generation as indicated in the EPR Plan.
- The **quantity of e-waste** collected by producers shall be accounted for in the revised EPR targets.
- **Separate e-waste collection targets** have been drafted for new producers, i.e. those producers whose number of years of sales operation is less than the average lives of their products.
- The **average lives** of the products will be as per the guidelines issued by CPCB from time to time.
- **Producer Responsibility Organizations (PROs)** shall apply to the Central Pollution Control board (CPCB) for registration to undertake activities prescribed in the Rules.
- Under the **Reduction of Hazardous Substances (RoHS)** provisions, cost for sampling and testing shall be **borne by the government** for conducting the RoHS test.
  - If the product does not comply with RoHS provisions, then the **cost of the test will be borne by the Producers.**

### SPINY HORNTAIL

**Context:** A rare Dragonfly has been recorded in Kerala.

#### DETAILS:

- **Scientific name:** *Burmagomphus chaukulensis*
- The species was first recorded from a fast-flowing stream near to the **village of Chaukul in the state of Maharashtra in India**.
  - It is part of the **Western Ghats biodiversity hotspot**, which is a **UNESCO World Heritage Site** and home to at least 5,000 species of animals and plants.
  - The hotspot is home to **over 190 species of Odonata** (dragonflies and damselflies), around 40 per cent of which are endemic.
- The specific epithet '**chaukulensis**' is derived from **village of Chaukul**, whilst the common English specific epithet '**Spiny**' refers to the spines on the males' hamuli.
- The scientists also proposed a genus name of '**Horntail**' based on the **shape of the appendages** at the end of the tail, and in the absence of an existing name for the genus.

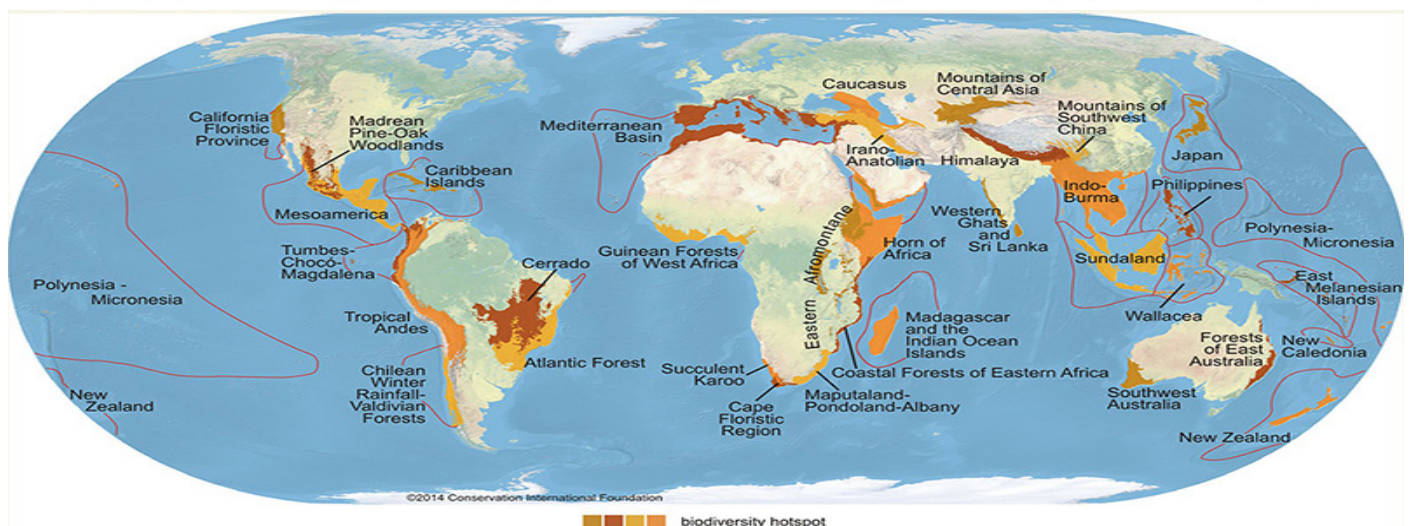


## WHAT ARE BIODIVERSITY HOTSPOTS?

- Biodiversity Hotspots are biogeographic regions that have the **richest** and the **most threatened** reservoirs of plant and animal life on earth.
- These regions have been identified as some of the **world's most important ecosystems** that are home to a **high number of endemic species** that also provide crucial ecosystem services for the benefit of humans.
- The total combined area of the world's **36 hotspots once occupied over 15.7%** i.e., about 23.7 million sq. km of the **earth's land area**.
- However, due to the extreme habitat loss in these regions as a result of the anthropogenic activities, the combined area of all the global hotspots **currently covers only 2.4%** (about 3.4 million sq. km) of the earth's land area and **accounts for about 35% of the world's ecosystem services**.
- These regions support more than **152,000 (about 50%) of the global vascular plant species** and **42% of all vertebrate species** (amphibians, reptiles, birds, and mammals) as endemics.
- It has been estimated that about **3608 amphibians, 3723 reptiles, 3551 birds, and 1845 mammals** are found as **endemics** in these hotspot regions.
- As per the **Red List of Threatened Species** that have been prepared by the International Union for the Conservation of Nature and Natural Resources (IUCN), more than **79% of the threatened amphibians, 63% of the threatened birds, and 60% of the threatened mammals** can be found exclusively within these hotspots.
- The current population data also shows that about **2.08 billion people** reside in the hotspot regions and are dependent on these forest areas for their survival.

## CRITERIA FOR DETERMINING A HOTSPOT

- According to **Conservation International**, to be recognized as a biodiversity hotspot, a region must meet **two strict criteria**:
- **The number of Endemic Species:**
  - The region must comprise **over at least 0.5% or 1,500 endemic vascular plant species**.
  - It has been found that these vascular plants are **critical for the ecosystem's sustainability** since they allow the circulation of photosynthetic products, water, and minerals.
- **Degree of threat:**
  - The region **must have lost at least 70% or more** of its original habitat.
- However, **many hotspot regions exceed these two criteria**.
  - For example, both the Tropical Andes and the Sundaland Hotspot regions have more than 15,000 endemic plant species; and over 95% of primary vegetation has also been lost in some hotspot areas.
- As estimated by Conservation International, a total of **36 areas** around the world meets the above two criteria and are therefore are considered to be biodiversity hotspots.
- These hotspots support **nearly 60%** of the world's flora and fauna



## BIODIVERSITY HOTSPOTS ACROSS THE WORLD

As per *Conservation International*, there are a total of **36 biodiversity hotspots** spread across the world.

1

### North and Central America

- California Floristic Province • Caribbean Islands
- Madrean Pine-Oak Woodlands • Mesoamerica

2

### South America

- Atlantic Forest • Cerrado • Chilean Winter Rainfall-Valdivian Forests
- Tumbes-Chocó-Magdalena • Tropical Andes

3

### Europe And Central Asia

- Caucasus • Irano-Anatolian • Mediterranean Basin • Mountains of Central Asia

4

### Africa

- Cape Floristic Region • Coastal Forests of Eastern Africa • Eastern Afrotropical
- Guinean Forests of West Africa • Horn of Africa • Madagascar • Indian Ocean Islands
- Maputaland-Pondoland-Albany • Succulent Karoo

5

### South Asia

- Eastern Himalayas • Indo-Burma • Western Ghats and Sri Lanka

6

### Southeast Asia and Asia-Pacific

- East Melanesian Islands • New Caledonia • New Zealand • Philippines
- Polynesia-Micronesia • Southwest Australia • Forests of East Australia
- Sundaland • Wallacea

7

### East Asia

- Japan • Mountains of Southwest China

Self Notes



# SCIENCE & TECHNOLOGY

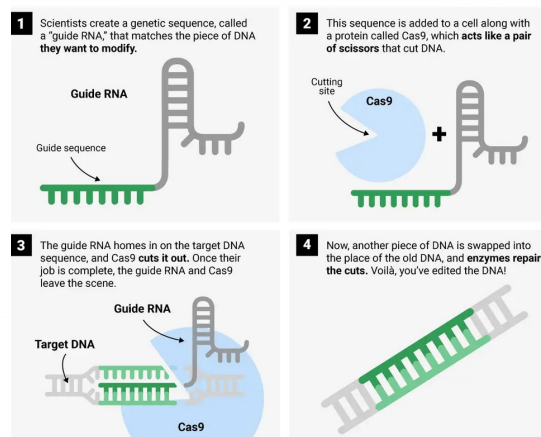
## NATIONAL FACILITY FOR GENE FUNCTION IN HEALTH & DISEASE

**Context:** The National Facility for Gene Function in Health and Disease (NFGFHD) was inaugurated in Pune recently.

### ABOUT THE FACILITY

- The NFGFHD has been set up at the Indian Institute of Science Education and Research (IISER), Pune.
  - Built by IISER Pune and supported by the **Department of Biotechnology (DBT) at a total cost of about Rs 45 crore**, this will be one-of-its-kind large facilities **providing timely supply of animal models** to researchers studying a range of diseases from cancer to diabetes.
- Rats, mice and rabbits will be housed here**, doing away with the need to import them.
- The facility houses **molecular biology laboratories and micro-injection setups** to generate mouse models, in which scientists will knock out existing genes and replace them with external or artificial genes that are linked to the disease under study.
  - This is done through **CRISPR / Cas9 systems**.
- There are **facilities for making embryonic stem cell-based models** and traditional transgenic mice models, embryo and sperm cryopreservation, and in-vitro fertilization.

### EDITING A GENE USING THE CRISPR/CAS9 TECHNIQUE



### WHY IT IS NEEDED?

- With a growing zoonotic disease burden on human health, there is an **increased urgency to perform disease studies** based on physiological evidence and methods.
- Since **human trials alone cannot suffice** for such studies, the **need for having experimental setups using animal models** has become imperative.
  - Hence, **animal, plant and microorganism-based models** are now being significantly deployed to study diseases in a time-bound manner.
- Scientists **depend** on small animals such as rats, mice and rabbits to study human diseases.

### WHAT IS GENOME EDITING?

- A decade ago, scientists in Germany and the US discovered a technique which allowed them to '**cut**' DNA strands and edit genes.
- For agriculture scientists this process allowed them to bring about **desired changes in the genome** by using **site directed nuclease (SDN)** or **sequence specific nuclease (SSN)**.
  - Nuclease is an enzyme which cleaves through nucleic acid — the building block of genetic material.

### WHAT IS CRISPR-CAS9?

- CRISPR-Cas9 is a unique technology that enables geneticists and medical researchers to **edit parts of the genome** by removing, adding or altering sections of the DNA sequence.

### How does it work?

- Pieces of RNA are engineered to be a guide that homes in on the targeted stretch of genetic material.
- The Cas9 is an enzyme that acts like molecular scissors to snip that spot.
- That allows scientists to delete, repair, or replace a particular gene.



## WEST NILE VIRUS (WNV)

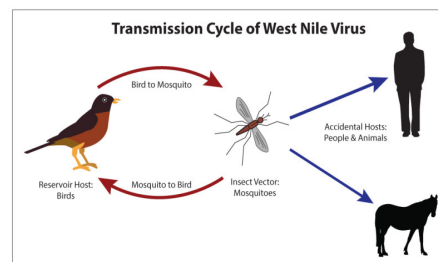
**Context:** Recently, the **Kerala health department was on alert** after the death of a 47-year-old from Thrissur due to the West Nile Virus.

### ABOUT THE VIRUS

- The West Nile Virus is a **mosquito-borne, single-stranded RNA virus**.
- It is a **flavivirus** related to the viruses that cause St. Louis encephalitis, Japanese encephalitis, and yellow fever.

### TRANSMISSION:

- **Culex** species of mosquitoes act as the principal vectors for transmission.
  - It is transmitted by **infected mosquitoes** between and among humans and animals, including birds, which are the reservoir host of the virus.
- It can also spread through **blood transfusion**, from an infected mother to her child, or through exposure to the virus in laboratories.
- It is **not known to spread by contact with infected humans or animals**.
- It **does not spread** "through **eating** infected animals, including birds if its fully cooked.
- The **incubation period** for WNV disease is typically 2 to 6 days, but can range from 2 to 14 days, and can be several weeks in immunocompromised people.
- **To date, no human-to-human transmission of WNV through casual contact has been documented.**



### SYMPTOMS

- The disease is **asymptomatic** in 80% of the infected people.
- The rest develop what is called the West Nile fever or severe West Nile disease.
  - In these 20% cases, the symptoms include **fever, headache, fatigue, body aches, nausea, rash, and swollen glands**.
- Severe infection can lead to **neuroinvasive** disease such as West Nile encephalitis or meningitis or West Nile poliomyelitis or acute flaccid paralysis.
- It **usually turns fatal** in persons with **co-morbidities** and **immuno-compromised** persons (such as transplant patients).

### TIMELINE OF WNV

- The **virus was first isolated in a woman in the West Nile district of Uganda in 1937**.
- It was identified in birds (crows and columbiformes like doves and pigeons) in the Nile delta region in **1953**.
- Before **1997**, WNV was **not considered pathogenic** for birds, but then, a more virulent strain caused the death in Israel of different bird species, presenting signs of encephalitis and paralysis.
- In **1999**, a WNV strain, believed to be one circulating in Israel and Tunisia, reached New York **producing a large outbreak that spread across the United States and eventually across the Americas, from Canada to Venezuela**.
- **Today, the virus is found commonly in Africa, Europe, the Middle East, North America, and West Asia.**

### WMV IN INDIA

- In India, antibodies against WNV were **first detected in humans in Mumbai in 1952** and virus activity has since been reported in southern, central, and western India.
- WNV has been **isolated in India from Culex vishnui mosquitoes** in Andhra Pradesh and Tamil Nadu, from *Culex quinquefasciatus* mosquitoes in Maharashtra, and **from humans in Karnataka**.
- **Febrile illness** and encephalitis cases in epidemic form were observed in Udaipur district of Rajasthan, Buldhana, Marathwada and Khandesh districts of Maharashtra.

- Serologically confirmed cases of WNV infections were **reported from Vellore and Kolar districts during 1977, 1978 and 1981, and in West Bengal in 2017.**
- In **2013**, the **complete genome sequence** of WNV was isolated from human samples during an acute encephalitis outbreak in Kerala between May and June 2011.
- A 2011 study in India had “clearly established” the association of WNV with ocular infection in Tamil Nadu during an epidemic of mysterious fever in the first half of 2010.

## TREATMENT

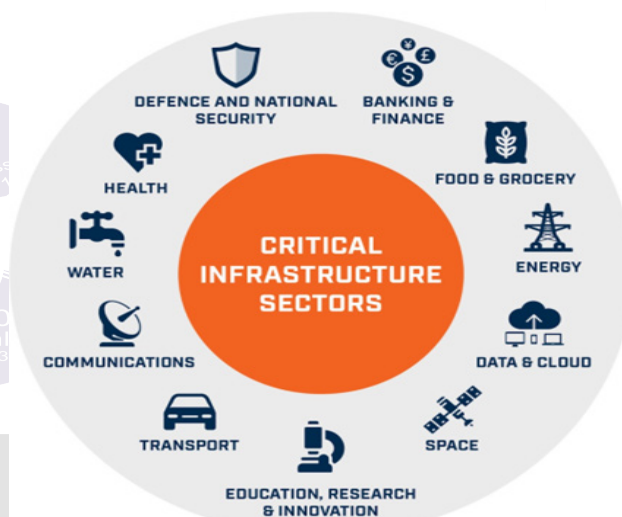
- **No WNV-specific prophylaxis, treatment or vaccine is available.**
  - **Only supportive treatments** are given to neuroinvasive WNV patients.
- Health authorities globally advice for **personal protective measures to reduce the risk of mosquito bites such as using mosquito repellents**, and for public health departments to ensure larval source reduction especially at breeding and resting sites for the mosquito vectors.

## CRITICAL INFORMATION INFRASTRUCTURE(CII)

**Context:** The Union Ministry of Electronics and IT (MeitY) has declared **IT resources of ICICI Bank, HDFC Bank and UPI managing entity NPCI** as ‘critical information infrastructure’.

## WHAT IS CRITICAL INFORMATION INFRASTRUCTURE?

- The **Information Technology Act of 2000** defines “Critical Information Infrastructure” as a “computer resource, the incapacitation or destruction of which shall have debilitating impact on national security, economy, public health or safety”.
- The government, under the Act, has the **power to declare** any data, database, IT network or communications infrastructure as CII to protect that digital asset.
- Any person who secures access or attempts to secure access to a protected system in violation of the law can be **punished with a jail term of up to 10 years.**



## HOW ARE CIIS PROTECTED IN INDIA?

- Created in January 2014, the **National Critical Information Infrastructure Protection Centre (NCIIPC)** is the **nodal agency** for taking all measures to protect the nation's critical information infrastructure.
- It is mandated to guard CIIs from “unauthorized access, modification, use, disclosure, disruption, incapacitation or distraction”.

## INFORMATION TECHNOLOGY ACT, 2000

- The main objective of this act is to carry lawful and trustworthy electronic, digital and online transactions and **alleviate or reduce cybercrimes.**
- The IT Act, 2000 has **two schedules**:
  - **First Schedule** - Deals with documents to which the Act shall not apply.
  - **Second Schedule** – Deals with electronic signature or electronic authentication method.

## The primary objectives of the IT Act, 2000 are:

- Granting **legal recognition to all transactions done through electronic data exchange**, other means of electronic communication or e-commerce in place of the earlier paper-based communication.
- Providing **legal recognition to digital signatures** for the authentication of any information or matters requiring authentication.
- Facilitating the **electronic filing of documents** with different Government departments and also agencies.
- Facilitating the electronic storage of data.

- Providing legal sanction and also **facilitating the electronic transfer of funds between banks and financial institutions.**
  - Granting legal recognition to bankers for keeping the books of accounts in an electronic form.
  - Further, this is granted under **the Evidence Act, 1891 and the Reserve Bank of India Act, 1934.**

### RAMSAY HUNT SYNDROME

- It is neurological disease in which a virus - **Varicella Zoster** - causes inflammation of the nerves involved in facial movements.
- When the nerves get inflamed, they lose their ability to function, leading to temporary facial palsy or paralysis.
- There are 12 cranial nerves in the body. RHS is the viral infection impacting the 7th cranial nerve that is involved in facial movements.
- **Note:** Ramsay Hunt syndrome is caused by the varicella zoster virus (VZV), the same virus that causes chickenpox in children and shingles (herpes zoster) in adults.



### ANCOVAX

- It is India's first Covid-19 vaccine for animals.
- It can protect animals against the Delta and Omicron variants of SARS-CoV-2.
- Ancovax can be used in dogs, lions, leopards, mice, and rabbits.
- It is an inactivated vaccine developed using an infectious part of the Delta variant.
- In addition, it uses Alhydrogel as an adjuvant to boost the immune response.
  - **Adjuvant:** An ingredient used in some vaccines that helps create a stronger immune response in people receiving the vaccine.

### AUCTIONING 5G SPECTRUM BANDS

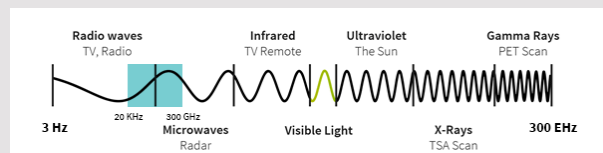
**Context:** The Union Cabinet gave its nod for the auction of spectrum that can be used to offer 5G services, at its meeting held recently.

#### DETAILS:

- A total of 72,097.85 MHz (or 72 Ghz) of spectrum with a validity period of 20 years will be put on sale during the auction planned towards the end of July.
  - The auction will be held for spectrum in various Low (600 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz), Mid (3300 MHz) and High (26 GHz) frequency bands.
- It is expected that the Mid and High band spectrum will be utilized by telecom service providers (TSPs) to roll-out 5G services wherein speeds would be 10 times higher than what is possible through the current 4G services.

#### WHAT IS SPECTRUM?

- Spectrum refers to the invisible radio frequencies that wireless signals travel over.
- Those signals are what enable us to make calls from our mobile devices, tag our friends on Instagram, call an Uber, pull up directions to a destination, and do everything on our mobile devices.
- The frequencies we use for wireless are only a portion of what is called the electromagnetic spectrum.
- **Spectrum wavelengths are classified into different bands within the electromagnetic spectrum range.**
  - Low-band spectrum (under 3 GHz) travels longer distances with minimal signal interruption.
  - Today's wireless networks are built primarily on low-band spectrum, and the wireless industry has used this spectrum to build high-speed wireless networks that cover 99.7 percent of Americans.
  - High-band spectrum (above 24 GHz) travels much shorter distances—think meters, not miles—compared to low-band spectrum, but offers high capacity and ultra-fast speeds.
  - Mid-band spectrum (between 3 and 24 GHz) blends the characteristics of both low- and high-band spectrum—providing a mix of coverage and capacity.



## WHAT ARE THE KEY ISSUES?

### • HIGH RESERVE PRICES FOR THE SPECTRUM

- The government has accepted the recommendations given by the Telecom Regulatory Authority of India (TRAI) on reserve prices for spectrum auctions.
- While the TRAI had earlier recommended reducing prices of airwaves across various bands by 35-40% from its earlier proposed base price, the telecom operators had expressed disappointment given their demand for a 90% cut in the prices.

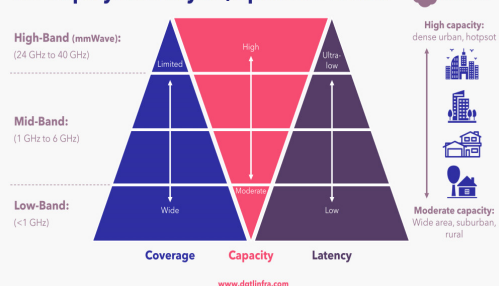
### • Direct allotment of spectrum to enterprises for setting up captive private networks.

- On allowing direct allocation of spectrum for captive non-public networks, the government has reasoned that the move will spur a new wave of innovations in Industry 4.0 applications such as machine to machine communications, Internet of Things (IoT), Artificial Intelligence (AI) across automotive, healthcare, agriculture, energy, and other sectors.
- However, the Cellular Operators Association of India (COAI), which counts the three private telcos as its members, has said that the move severely degrades the business case of TSPs.

## BENEFITS OF 5G

- 5G is the next generation cellular technology that will provide faster and more reliable communication with ultra-low latency.
  - Latency is the amount of time data takes to travel between its source and destination.
- Consumers will be able to download data heavy content such as 8K movies and games with better graphics in just a few seconds.
- 5G is expected to form the backbone of emerging technologies such as IoT and machine to machine communications, thereby supporting a much larger range of applications and services, such as tele-surgery and real time data analytics.
  - 5G is expected to create a cumulative economic impact of \$1 trillion in India by 2035.

### 5G Deployed in Layers, Spectrum Bands



## TELECOM REGULATORY AUTHORITY OF INDIA

It was established by an Act of Parliament (Telecom Regulatory Authority of India Act, 1997) to regulate telecom services, including fixation/revision of tariffs for telecom services.

It provides a fair and transparent policy environment which promotes a level playing field and facilitates fair competition.

The TRAI Act was amended to establish a Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) to take over the adjudicatory and disputes functions from TRAI.

TDSAT was set up to adjudicate any dispute between a licensor and a licensee, between two or more service providers, between a service provider and a group of consumers, and to hear and dispose of appeals against any direction, decision or order of TRAI.

## MONKEYPOX

**Context:** India's Health Ministry has issued guidelines on the management of the monkeypox disease.

### WHAT IS MONKEYPOX?

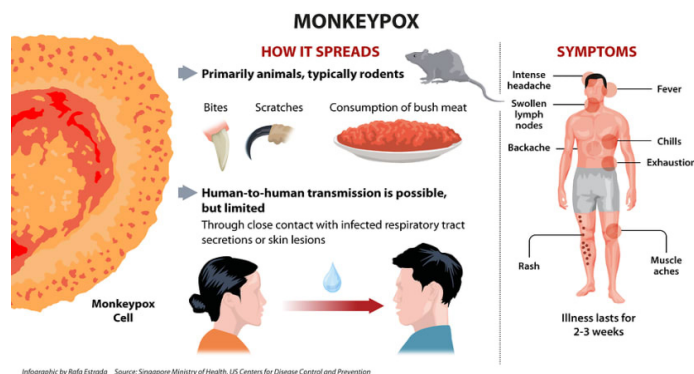
- Monkeypox belongs to the poxvirus family of viruses and was first identified in monkeys way back in 1958.
- The monkeypox virus is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox.

### SMALL POX

- Smallpox is a contagious, disfiguring and often deadly disease that has affected humans for thousands of years.
- Naturally occurring smallpox was wiped out worldwide by 1980 — the result of an unprecedented global immunization campaign.
- No cure or treatment for smallpox exists.
- A vaccine can prevent smallpox, but the risk of the vaccine's side effects is too high to justify routine vaccination for people at low risk of exposure to the smallpox virus.



- Monkeypox is a zoonosis - a disease that is transmitted from infected animals to humans.
- Cases occur close to tropical rainforests inhabited by animals that carry the virus.
- The first human case was described in 1970 from the Democratic Republic of Congo.
- After the elimination of smallpox, monkeypox has become one of the dominant poxviruses in humans, with cases increasing over years along with a consequent reduction in the age-group affected.



## TRANSMISSION:

- The outbreaks in Central Africa are thought to have been contributed by close contact with animals in regions adjoining forests.
- While monkeys are possibly only incidental hosts, the reservoir is not known.
- It is believed that rodents and non-human primates could be potential reservoirs.
- Human-to-human transmission of the virus is limited.
  - It can be through contact with bodily fluids, lesions on the skin, the respiratory tract or through the eyes, nose or mouth or by virus-contaminated objects, such as bedding and clothing.
- The virus is less contagious than smallpox and causes less severe illness

## SYMPTOMS:

- Monkeypox typically presents itself with fever, rash and swollen lymph nodes and may lead to a range of medical complications.
- The disease is usually self-limiting with the symptoms lasting from two to four weeks.
- Severe cases can occur.
- Case fatality ratio has been around 3-6 per cent but can be up to 10 per cent.

## TREATMENT:

- Vaccines used during the smallpox eradication programme also provided protection against monkeypox.
- While one vaccine (MVA-BN) and one specific treatment (tecovirimat) were approved for monkeypox, in 2019 and 2022 respectively, they aren't widely available.
- A vaccination with small pox is said to be protective against monkeypox but this vaccine would be in individuals over 40-50 years of age, who've been inoculated with the small pox vaccine and here too it's unclear how long lasting the protection is.
- While we have many effective ways of containing the outbreak, including contact-tracing and a vaccine, efforts to bridge the divide in health, knowledge, experience and infrastructure could contribute to long-lasting impact in preventing and managing future outbreaks and contribute to an equitable and global public health.

## MUTATION OF THE VIRUS

- Monkeypox virus is a DNA virus with a quite large genome of around 2,00,000 nucleotide bases.
  - While being a DNA virus, the rate of mutations in the monkeypox virus is significantly lower compared to RNA viruses like SARS-CoV-2.
  - The low rate of mutation therefore limits the wide application of genomic surveillance in providing detailed clues to the networks of transmission for monkeypox, unlike what was possible for SARS-CoV-2.
- A number of genome sequences in recent years from Africa and across the world suggest that there are two distinct clades of the virus
  - the Congo Basin/Central African clade
  - the West African clade.
- The Central African/Congo basin clade is thought to have a higher transmission and virulence compared to the West African clade.

### What is Genome Sequencing?

- Every organism's genetic code is contained in its Deoxyribose Nucleic Acid (DNA), the building blocks of life.
- The discovery that DNA is structured as a "double helix" by James Watson and Francis Crick in 1953, for which they won a Nobel Prize in 1962, was the spark in the long, continuing quest for understanding how genes dictate life, its traits, and what causes diseases.
- DNA sequencing is any chemical, enzymatic or technological procedure for determining the linear order of nucleotide bases in DNA.
- It is a laboratory method that is used to determine the entire genetic makeup of a specific organism or cell type.
- This method can be used to find changes in areas of the genome.
- These changes may help scientists understand how specific diseases, such as cancer, form.

### WHAT DO THE GUIDELINES SAY?

- The guidelines recommend that contacts be monitored every day for the onset of signs/symptoms for a period of 21 days (as per case definition) from the last contact with a patient or their contaminated materials during the infectious period.
- Suspected cases of monkeypox include a person of any age with a history of travel to affected countries within the last 21 days and presenting an unexplained acute rash and one or more of symptoms, including swollen lymph nodes, fever, head/body ache and profound weakness.
  - Other symptoms include pain in the eye or blurring of vision, shortness of breath, chest pain, difficulty in breathing, altered consciousness, seizure, decrease in urine output, poor oral intake and lethargy.

### How Prevalent Is Monkeypox Globally?

- The World Health Organization has said that cases of monkeypox have been reported from 12 member states that are not endemic for monkeypox virus.
- To date, all cases whose samples were confirmed by PCR testing have been identified as being infected with the West African clade of the virus.
- The genome sequence from a swab sample from a confirmed case in Portugal, indicated a close match of the monkeypox virus causing the current outbreak, to exported cases from Nigeria to the U.K., Israel and Singapore in 2018 and 2019.
- **Countries where the virus was endemic are**
  - Benin,
  - Cameroon,
  - the Central African Republic,
  - the Democratic Republic of the Congo,
  - Gabon,
  - Ghana (identified in animals only),
  - Ivory Coast,
  - Liberia,
  - Nigeria,
  - The Republic of the Congo,
  - Sierra Leone,
  - South Sudan

### D2M TECHNOLOGY

**Context:** The Department of Telecommunications (DoT) and India's public service broadcaster Prasar Bharati are exploring the feasibility of direct to mobile technology that allows to broadcast video and other forms of multimedia content directly to mobile phones, without needing an active internet connection.

## WHAT IS DIRECT-TO-MOBILE BROADCASTING?

- The technology is based on the convergence of broadband and broadcast, using which mobile phones can receive terrestrial digital TV.
- Using D2M, multimedia content can also be beamed to phones directly.
- **Uses:**
  - The idea behind the technology is that it can possibly be used to directly broadcast content related to citizen-centric information and can be further used to counter fake news, issue emergency alerts and offer assistance in disaster management, among other things.
  - Apart from that, it can be used to broadcast live news, sports etc. on mobile phones.
  - The content should stream without any buffering whatsoever while not consuming any internet data.

## TURING TEST

**Context:** The Turing test, named after British mathematician Alan Turing was a concept proposed to test if a machine could deceive a person into thinking it was human.

### ABOUT TURING TEST

- **Turing called it the 'imitation game' and first discussed it in his 1950 paper.**
  - Turing was addressing a philosophical problem that other mathematicians and scientists were wrangling with, given that the first computers — based on vacuum tubes and large electrical systems were already around. The question was: Can machines think?
- Turing is considered the father of modern computer science, having in 1936, conceived of a 'Universal Machine' that in theory could compute anything and lies at the heart of the modern digital computer.
- His conception of computers as thinking machines gestated the development of Artificial Intelligence.
- Passing the Turing test would mean that computers were able to convince people they were human.
- **The earliest was a program called ELIZA created in the 1960s.**
  - ELIZA, was a chatbot modelled on a psychotherapist.
  - In response to typed questions, Eliza was programmed to pick on certain words, reframe that as a question and pose it back.
  - **For eg:** Eliza would begin: "Is something troubling you?" A response: "Men are all alike." Eliza: "What is the connection, do you suppose?"
- There have been significant advances in machine's ability to understand human language, as the increasing use of Alexa and Siri suggest, but it's quite apparent that they are far from being considered to have reached a stage where they can easily trick most people into believing them to be human.

## INTERNATIONAL LIQUID MIRROR TELESCOPE

**Context:** For the first time in India, a liquid mirror telescope facility atop a mountain in the Himalayan range will keep a watch on the overhead sky to identify transient or variable objects such as supernovae, gravitational lenses, space debris, and asteroids.

### About ILMT

- The International Liquid-Mirror Telescope (ILMT) has been set up at the Devasthal Observatory campus owned by Aryabhata Research Institute of Observational Sciences (ARIES), Nainital in Uttarakhand.
- It's the only one to have been developed for astronomy research and is also the only one of its kind to be operational anywhere in the world.
- The handful of liquid-telescopes that were previously built either tracked satellites or were deployed for military purposes.
- ILMT will be the third telescope facility to come up at Devasthal — one of the world's pristine sites for obtaining astronomical observations.

- ILMT will work along with the 3.6-metre Devasthal Optical Telescope (DOT), the largest telescopes operating in India (of the 4-metre class) and the 1.3-metre Devasthal Fast Optical Telescope (DFOT) inaugurated in 2010.
- The ILMT telescope will make sky surveys possible and obtain images that can help observe transient phenomena such as supernovae and record the presence of space debris or meteorites.
- The telescope has been built by a collaboration of scientists from Canada, Belgium and India.
- It is located at an altitude of 2,450 metres on the Devasthal Observatory campus of the Aryabhata Research Institute of Observational Sciences (ARIES) in Nainital district, an autonomous institute under the Department of Science and Technology, Government of India.
- **How it works:**
  - A large pool of mercury placed in a vessel is spun around so fast that it curves into a parabolic shape.
  - Since mercury is reflective, this shape helps in focusing the reflected light.
  - A thin sheet of mylar protects the mercury from the wind.
  - The telescope, having a primary mirror that is liquid, cannot be turned and pointed in any direction.
  - It “stares” at the zenith and watches the sky as the earth rotates, thereby giving a view of different objects.
  - This property can be used to scan and survey the sky, observe transients and moving objects such as meteorites.
  - It will work in tandem with the existing 3.6-metre Devasthal Optical Telescope.

### How is it different from a conventional telescope?

- **Movability:**
  - A conventional telescope is steered to point towards the celestial source of interest in the sky for observations.
  - The liquid-mirror telescopes, on the other hand, are stationary telescopes that image a strip of the sky which is at the zenith at a given point of time in the night.
  - A liquid-mirror telescope will survey and capture any and all possible celestial objects — from stars, galaxies, supernovae explosions, asteroids to space debris.
- **Types of mirrors used to reflect light:**
  - Conventional telescopes have highly polished glass mirrors — either single or a combination of curved ones that are steered in a controlled fashion to focus onto the targetted celestial object on specific nights. The light is then reflected to create images.
  - As opposed to this the liquid-telescope is made up of mirrors with a reflective liquid, in this case, mercury — a metal which has a high light-reflecting capacity.
  - About 50 litres (equal to 700kgs) of mercury filled into a container will be rotated at a fixed constant speed along the vertical axis of the ILMT.
  - During this process, the mercury will spread as a thin layer in the container forming a paraboloid-shaped reflecting surface which will now act as the mirror.
  - Such a surface is ideal to collect and focus light.
- **Operational Time:**
  - While conventional telescopes observe specific stellar sources for fixed hours as per the study requirement and time allotted by the respective telescope time allotment committee
  - ILMT will capture the sky’s images on all nights — between two successive twilights — for the next five years starting October 2022.



## Countries involved

- India, Belgium, Canada, Poland and Uzbekistan are the main countries who have collaborated to set up the ILMT.
- The telescope was designed and built at the Advanced Mechanical and Optical Systems Corporation and the Centre Spatial de Liège in Belgium.
- The funding, estimated to range between Rs 30 to Rs 40 crore, was jointly provided by Canada and Belgium.
- The operations and up-keep of this telescope is to be done by India.

## BARCODES AND RADIO-FREQUENCY IDENTIFICATION TAGS

**Context:** Baggage tags equipped with radio-frequency identification (RFID) will soon be available at Delhi's Indira Gandhi International Airport, marking a first of its kind for the country.

### WHAT IS RADIO-FREQUENCY IDENTIFICATION (RFID) TECHNOLOGY?

- Radio-frequency identification (RFID) is a technology that uses radio waves to automatically identify various tagged objects.
- Radio Frequency Identification (RFID) is a wireless tracking method that uses tags and readers to track objects.
- Transponder, receiver, and transmitter are the three components of an RFID system.
- The RFID reader continually sends radio waves of a specific frequency in RFID system.
- If the object to which the RFID tag is attached is within the range of the radio waves, it provides feedback to the RFID reader, which then identifies the object based on the feedback.

### DIFFERENT KINDS OF RFID

- **Three types:**
  - Passive tags –
  - There is no power supply for passive tags.
  - They acquire their power from the readers' incoming radio waves.
  - Passive RFID tags do not have a battery and are powered by the reader.
  - Semi-passive tags –
  - Semi-passive tags comprise an internal circuit with a power source, but rely on the radio waves received from the reader to transmit the response.
  - Active tags –
  - The internal circuit of active tags is powered by a power source.
  - Batteries are being used to power active RFID tags.
  - It also utilises its own power supply to send the response to the reader.



### WHAT IS A BARCODE?

- A barcode is a printed series of parallel bars or lines of varying width used for entering data into a computer system.
- The bars are black on a white background and vary in width and quantity depending on the application.
- The bars represent the binary digits zero and one, which represent the digits zero to nine processed by a digital computer.
- These barcodes are scanned using special optical scanners known as barcode readers, which come in a variety of shapes and sizes.

- The numbers that make up a barcode are also printed at the bottom.
- One of the most well-known examples of a barcode is the QR code.

## RFID TECHNOLOGY VS BARCODES

- RFID uses radio waves to communicate data from RFID chips to readers that do not require line of sight in order to obtain the data
  - Barcodes use light to read the black-and-white pattern printed on the sticky tag. An RFID tag can communicate with a powered reader even when the tag is not powered.
- When printed on paper or sticky labels, barcodes are more susceptible to wear and breakage, which can affect their readability.
  - RFID tags are sometimes placed in plastic labels or into the object itself, making them more durable than barcodes.

 <p>Barcode</p>	 <p>RFID</p>
Require a line of sight and held in a position to scan depending on the light reflection.	reads without a line of sight as long as the label is in the reader's radio frequency range.
Efficiently read when grocery items are passed through the readers.	Faster to be read on an amusement park wristband at entrance gates to letting crowds into events.
Permanent information printed on a label to identify an item.	One type of RFID label can be read and rewritten so information can be changed. This reusable feature allows users to customize the label as the item changes over time due to customer demand and usage.
Inexpensive to design and print.	RFID labels require internal circuits (chips_ and antennae, they are more expensive to produce.

- In contrast to barcode scanners, RFID scanners can process dozens of tags in a single second.
- Also, barcodes are simple and easy to copy or counterfeit, whereas RFID is more complicated and difficult to replicate or counterfeit.
- Unlike barcodes, which must in line of sight, RFID tags need not be.
- RFID tags are expensive compared to barcodes.



### Self Notes

CHAHAL

A C A D E M Y

# CULTURE

## TRIBES OF RAJASTHAN AND GUJARAT

**Context:** Recently, the demands for a “Bhil Pradesh”, a separate state for tribal people in western India, have of late begun to be raised again.

### WHAT IS ‘BHIL PRADESH’?

- The Bharatiya Tribal Party (BTP), a political party based in Gujarat, envisions Bhil Pradesh as a separate state carved out of 39 districts spread over four states:
  - 16 in Gujarat
  - 10 in Rajasthan
  - 7 in Madhya Pradesh
  - 6 in Maharashtra
- BTP insist that Bhil social reformer and spiritual leader Govind Guru first raised the demand for a separate state for tribals back in 1913 after the Mangarh massacre.
  - The massacre, which took place six years before Jallianwalla Bagh and is sometimes referred to as the “Adivasi Jallianwala”, saw hundreds of Bhil tribals being killed by British forces on November 17, 1913 in the hills of Mangarh on the border of Rajasthan and Gujarat.

### MAJOR TRIBES OF RAJASTHAN

- Rajasthan tribals form approximately **12% of the total population** of Rajasthan.
  - The **Bhils and the Minas** are the principal tribes of Rajasthan, India.
  - Amongst the smaller tribes are **Sahariyas, Gaduliya Lohars and the Garasias**.

### BHILS

- Bhils, the principal tribe of Rajasthan, comprise approximately **39% of the total tribal population** in Rajasthan.
  - **Banswara area is dominated** by this tribal group.
- They were **believed to be fine archers** and some **Bhil bowmen** found a mention in the **Ramayana** and the **Mahabharata**.
- A number of Bhils gather at the **Baneshwar festival** held in Dungarpur.
  - **Superstition is deep rooted in the Bhil culture**.

### MINAS

- Minas, the **second largest tribe** in Rajasthan, **dominate the area of Shekhawati and other eastern parts** of Rajasthan.
- They **originally resided at the Indus Valley civilization**.
- Minas have **tall and athletic built** and sharp features including large eyes, light brown complexion and thick lips.
  - **Alike the Bhils, the literacy rate amongst the Minas is low**.

### GADIYA LOHARS

- Originally a **martial tribe**, Gadiya Lohars **derived their name from the attractive bullock carts** popularly called **gadis**.
  - Nowadays, they are **nomadic blacksmiths**.
- They **left their homeland after Maharana Pratap was ousted from Chittorgarh** by Emperor Akbar.

## GARASIAS

- Garasias, **small Rajput tribe resides along the Abu Road** area in southern Rajasthan.
- **Marriage through elopement is an interesting custom followed by this tribal group.**

## SAHARIYAS

- Sahariyas, **the jungle dwellers**, are found in **Kota, Dungarpur** and **Sawai Madhopur** areas of southern Rajasthan.
- Thought to be of Bhil origin, they are **considered the most backward tribe in Rajasthan.**
- **Hunting and fishing** are the main sources of earning a livelihood.

## DAMORS

- **Damors, chiefly, cultivators and manual laborers** migrated from Gujarat to Rajasthan and settled in the **Udaipur** and **Dungarpur** districts.

## OTHER TRIBES OF RAJASTHAN INCLUDE:

- **Meo and Banjara, the traveling tribes**
- **Rabaris, the cattle breeders**
- **Kathodi, inhabiting Mewar region)**
- **Kanjar**
- **Sansi**

## MAJOR TRIBES OF GUJARAT

### GAMIT

- They love to **worship Sun god first** and then they continue with their further worship.
- Like other tribes, Gamits are also fond of **music and dance.**
- They **use natural things to make their musical instruments** like leather, metal strings, pipe, shankh etc.
- The ladies of Gamit tribes are fond of **ornaments** like Kanthi, Donto and some other ornaments.
- This tribe is mostly found in **Surat, Bharuch, Valsad** and **Dangs.**

### BHILS

- Due to its high population, the tribe is **divided into smaller groups** like **Bhil Garasia, Dholi Bhil** etc.
- Bhil people are **generally of medium or short height** because of the biological condition where they reside.
- They have a very **interesting ritual to select their life partner** and this ritual gets performed on the festival of **Gol Gadheda.**
- Like Gamits, Bhils also acquire **agriculture** as their main occupation while poultry, distillation are some other occupations possessed by them.
- The **community is male-oriented** as there is a bias between male and female.

### DHODIAS

- The cultures of this tribal community are quite **similar to the cultures of Hindus** like **Kanyadan, Mangalphera** are some of the common cultures.
- The **main occupation** of this tribe is agriculture, fishing, laboring.
- They are **very educated and even employed with white collared jobs.**
- The main **ornaments** carried by the Dhodia ladies are belly chain and Dubla.
- **Unlike Bhils, Dhodias are not male-oriented only the community gives equal priority to women also like women contribute to the livelihood of the family.**

### BAWCHA

- The **education status of this tribe is little better** as they reside in urban as well as rural areas.
- The **main occupation of this tribe is making and selling bamboo basket** but that is now limited to the rural areas only.
- **The people of this community behave stereotypically in the case of menstruation, pregnancy and others.**



**KUNBI**

- The **custom of this tribal community is similar to the Hindus** like they also perform the function of Betrothal (Sagai) as a marriage ritual and the custom of half marriage (Pen).
- Similar to Bhils, Bawacha, Dhodias and Gamits, Kunbi community has also acquired agriculture, farming and poultry as their **main occupation**.
- The women of the community are **not given the equal priority** as compared to men.

**RABARI**

- They **migrated** from Afghanistan.
- The **main occupation** of this tribe is breeding of sheep, cattle and selling the milk.
- The **women** are given **equal priority** to men as their perception is very important for any kind of family decisions.
  - **Siya is the folk song of Rabaris which they perform on every festival.**

**SIDDI**

- This tribe had **migrated from Africa** to India in the search of food and shelter.
- They are **scattered at many places Karnataka, Maharashtra, Andhra Pradesh** but we can find the majority of this tribe in Gujarat (**Junagarh**).
- The religions possessed by them are **Christianity, Islam and Hindu** also but in a very less number.
- Siddhi community is generally **restricted to the village areas only** and so they are not much developed and educated.
- **"Dhamal" is a folk dance of Siddhis** which is an imitated dance form of Africa.
  - One can easily recognize the people of this community because of their peculiar dressing style which is a **combination of Hindu and Muslim tradition**.

**PATELIYA**

- This is **one of the wealthiest tribes** of Gujarat and is mostly found in **Surat, Kheda, Sabarkantha** and **Ahmedabad** districts.
- **Garba dance performed by this tribe during Navratri season** has become prevalent now.
- The tribe **doesn't do discrimination** between the studies of girls and boys and so both the genders are equally educated.

**NAIKDA/NAIKAS**

- The **Naikas are divided into two main groups** known as Naikas of South Gujarat, Naikas of Baroda and of central Gujarat.
- This tribe gives **equal status to women** in all the norms whether it is social, political or economic.
- The tribe organizes a fair named **"Shivratri Mela" in which they organize the anniversary of their dead ones**.

**CONSTITUTIONAL PROVISIONS AND SAFEGUARDS FOR TRIBAL GROUPS**

**Article 342** lays down that the **President may by public notification, specify the tribes** or tribal communities or part of or groups within tribes or tribal communities or parts which shall for the purpose of this Constitution **deemed to be Scheduled Tribes**.

**Article 164** provides for a **Ministry of Tribal Welfare** in each of the State of Bihar, Madhya Pradesh and Orissa which have large concentration of Scheduled Tribes population

**Article 244** provides for **the inclusion of a Fifth Schedule in the Constitution** for incorporating provisions for the administration of Scheduled Areas and Tribes of the States which have sizeable tribal population (other than those of Assam).

**Article 275** provides for the **grant of special funds by the Union Government to State Government** for promoting the welfare of Scheduled Tribes and providing them with a better administration.

## LAWS THAT GOVERN MUSIC IN INDIA

**Context:** Today the music industry specifically looking at the music emanating from Punjab — is being tested on several fronts, including **crass commercialism, vulgar overtones and misogynistic lyrics.**

### WHAT ARE THE LAWS ON MUSIC IN INDIA?

- **Section 294** of The Indian Penal Code, 1860, punishes singing, reciting or uttering any obscene song in or near any public place with imprisonment of three months or fine or both.
- **Entry 60 of The Union list** of the Constitution of India empowers the Central government to enact laws for sanctioning of cinematograph films for exhibition.
- The **Censor Board**, in turn classifies films for restricted or unrestricted public exhibition.
- Further, the Government of India, under the Union list, can **enact laws for wireless, broadcasting and other like forms of communication.**
- Besides, there are content restrictions for cable television in the **Cable Network Act, 1995** and restraints for internet in **Section 67 of The Information Technology Act, 2000** which prohibits publication of obscene material in electronic form. Internet content is also controlled by guidelines for internet service providers who are under an obligation to prevent any obscene, objectionable and unauthorized material over their networks.
- **STATE LAWS**
  - The **Punjab Cinemas (Regulation) Act, 1952**, governs matters relating to licensing and regulation of cinemas in the territory of Punjab.
  - The **Punjab Dramatic Performances Act, 1964**, provides for better control of dramatic performances in Punjab and empowers the District Magistrate to prohibit any objectionable dramatic performance in a public place.
  - The **Music in Muslim Shrines Act, 1942** was enacted to control performances by girls in Muslim shrines and barred any woman or girl to either sing or dance in a Muslim shrine.
  - Other than this, music for society in general, is **unregulated by any State enactment** applicable in Punjab, primarily because it is within the domain of the Government of India to make a regulatory law applicable throughout the territory of India.
  - Irrespective of the matter being a central subject, **Entry 33 of the State list** of the Constitution of India, empowers the State government to enact laws for theatres and dramatic performances, sports, entertainment and amusement.

### ISSUES

- Since sound recordings are **not regulated by any central enactment** like the Censor Board certification for films under the **Cinematograph Act, 1952**, the music industry **goes unchecked** as song content has **no regulatory mechanism.**
- A song which is a combination of lyrics, composition and voices of a performer recorded in a studio, the producer is its first owner under the **Copyright Act, 1957.**
  - Regardless, pirated music sold at abnormally low costs rules the roost.
- However, offensive and vulgar lyrics **do not find statutory road blocks other than Section 294** of the IPC for punishing obscene acts and songs.

### THE REMEDY

- Under Entry 33 of the State List of the Constitution of India, the Government of Punjab is well within its powers to **consider music as a part of “entertainment” and enact a new regulatory law to curb ‘vulgar’ music.**
- The Music in Muslim Shrines Act, 1942 and The Punjab Dramatic Performances Act, 1964 are examples of Punjab legislation which **can be emulated to put this proposition into practice.**

- The need of the hour is to **enact stricter legislation** to keep an eye on composers and lyricists, after defining the contours of an indecent song.

## OPERATION BLUESTAR

**Context:** Ahead of the **38th anniversary of 'Operation Bluestar'**, Punjab Chief Minister reviewed the law-and-order situation in the State.

### ABOUT OPERATION BLUESTAR

- The 1984 Operation Blue Star was the **biggest internal security mission** ever undertaken by the Indian Army.
- Operation Blue Star was **Indira Gandhi's** solution to the haywire going **law and order situation in Punjab**.
- Indira Gandhi, the then Prime Minister of India, ordered the **military operation to remove Sikh militants** who were accumulating weapons in the Harmandir Sahib Complex (Golden Temple).
- Operation Blue Star was carried out between June 1 and June 8, 1984, in Amritsar.
- Operation Blue Star took birth after the **rise of Khalistan movement** in India.
  - The Khalistan movement was a political Sikh nationalist movement which **aimed** at creating an **independent state for Sikhs** inside the current North-Western Republic of India.
  - Even though the Khalistan movement started in the early 1940s and 1950s, it gained popularity between 1970s and 1980s.
- **JARNAIL SINGH BHINDRANWALE**
  - Bhindranwale was the **leader of Damdami Taksal** and was one of the main reasons behind Operation Blue Star.
  - As a leader, Bhindranwale had an influence on Sikh youth.
  - He persuaded many people to **follow Sikh rules** and tenets.
  - During Operation Blue Star, Bhindranwale and Khalistan supporters **took over the Akal Takht complex in Amritsar's Golden Temple**.
  - Bhindranwale was seen as a **supporter of the creation of Khalistan**.
  - Operation Blue Star **specifically was aimed to eliminate Jarnail Singh Bhindranwale** from the Golden Temple complex and regain the control over Harmandir Sahib.

### IMPLICATIONS

- **Death toll**
  - Official reports put the number of deaths among the Indian army at 83 and the number of civilian deaths at 492, though independent estimates ran much higher.
- **Barring Media**
  - The government faced a lot of backlash in 1984 as they had barred media from entering Punjab altogether.
  - Media personnel were put on a bus and were dropped off at Haryana border.
  - As there was a curfew-situation in Punjab, no mode of transport was available for them to travel.
  - Whoever reached was not allowed to enter Punjab as well.
- **Aftermath**
  - The military assault led to tensions across members of Sikh community worldwide.
- **Revenge**
  - **Prime Minister Indira Gandhi was assassinated** by two of her Sikh bodyguards on October 31, 1984, for giving permission for the Operation Blue Star



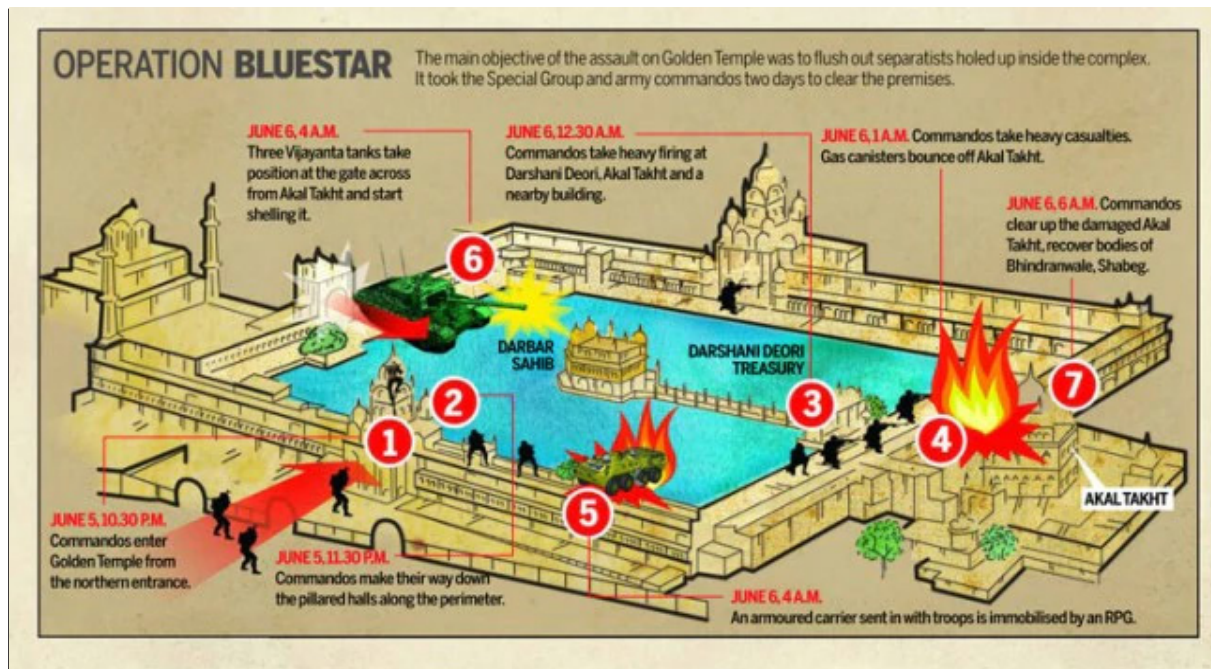
## OPERATION BLUE STAR WAS DIVIDED INTO TWO PARTS

### • Operation Metal:

- It was **limited to Golden Temple** but it also led to Operation Shop - the capturing of suspects from outskirts of Punjab.

### • Operation Woodrose

- It was launched **throughout Punjab**.
- The operation was carried out by Indian Army, using tanks, artillery, helicopters and armored vehicles.



## OPERATION SUNDOWN

### ON THE DRAWING BOARD

#### OPERATION SUNDOWN

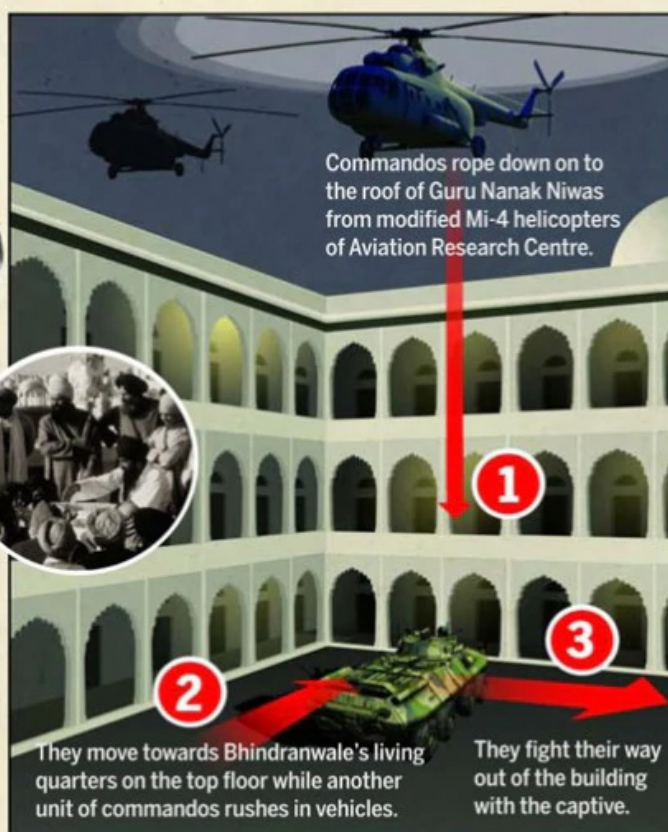
The aborted plan to abduct Bhindranwale

February 1984

An SAS officer visits Golden Temple at the request of Indira Gandhi and her adviser R.N. Kao and draws up a plan to capture Bhindranwale. Spies disguised as pilgrims and journalists infiltrate the temple to get layouts. Models of Guru Nanak Niwas are built at Sarsawa Air Force base for Special Group, a secret RAW unit, to rehearse Operation Sundown.

April 1984

Fearing civilian casualties, Indira Gandhi kills Sundown. The Army is given green signal for Operation Bluestar.





## OPERATION BLACK THUNDER

- Operation Black Thunder was the **second phase of Operation Blue Star**.
- The first phase was carried out on April 30, 1986, while the second Operation Black Thunder began on May 9, 1988.
- It was **carried out by Black Cat commandos** of National Security Guards (NSG) to remove Sikh militants from the Golden Temple.



### Self Notes



# INTERNATIONAL RELATIONS

## INDO-PACIFIC ECONOMIC FRAMEWORK

**Context:** Recently, the Indo-Pacific Economic Framework launched by United States.

### WHAT IS INDO-PACIFIC ECONOMIC FRAMEWORK?

- The Indo-Pacific Economic Framework (IPEF) is designed as a **tool to bolster U.S. cooperation with its Asian partners.**
- The IPEF will **not produce a traditional free trade agreement (FTA).**
  - It will **not provide improved market access** through tariff elimination.
- The IPEF will **focus on standards** for the **digital economy, supply chain resiliency, decarbonization, infrastructure and worker standards.**
- The arrangement **also includes measures to establish sustainable food systems and science-based agricultural regulation, as well as good regulatory practices and trade facilitation.**

### PILLARS OF IPEF

- The IPEF is built on **four pillars or modules** –
  - **fair and resilient trade** that will include digital economy and emerging technology, labour commitments, the environment, trade facilitation, transparency and good regulatory practices, and corporate accountability, standards on cross-border data flows and data localizations.
  - **supply chain resilience** to develop “a first-of-its-kind supply chain agreement” that would anticipate and prevent disruptions;
  - **infrastructure, decarbonization and clean energy** that will include agreements on “high-ambition commitments” such as renewable energy targets, carbon removal purchasing commitments, energy efficiency standards, and new measures to combat methane emissions;
  - **tax and anti-corruption** with commitments to enact and enforce “effective tax, anti-money laundering, anti-bribery schemes in line with [American] values”.
- Countries can **pick-and-choose the modules** that they want to be part of **without committing to all of them.**

### WHY IS THE U.S. PROMOTING THIS BLOC?

- The IPEF is **part of the U.S.'s more than a decade old “Pivot to Asia” programme**, re-imagining the Indo-Pacific as a geographic construct including America.
- The IPEF is also a way for the U.S. to **keep its foot in the door on trade in Asia**, after the Trump administration **walked out of the 11-member Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP, originally the TPP) in 2017** that includes Canada, Mexico and countries in Asia and South America (China has applied to be a member).
  - Eleven other nations later became signatories to the **Comprehensive and Progressive Agreement on Trans Pacific Partnership (CP-TPP) in 2018**, a platform that China wants to join (provided it meets its high standards).
- The U.S. is **also not part of the other big trade bloc**, the **Regional Comprehensive Economic Partnership (RCEP)**, that includes China, all 10 members of the ASEAN, as well as Australia, Japan, New Zealand and South Korea, a deal India walked out of in 2019.
- The **Regional Comprehensive Economic Partnership (RCEP)** agreement was also conceived as a response to the US-led TTP.
  - China is a signatory to RCEP, while India opted out in 2019 because it felt the free trade agreement would flood markets with Chinese products.
  - The RCEP was finally signed on November 15, 2020, and came into effect on January 1 last year.

- By announcing a new arrangement that includes India, seven of 10 ASEAN members, and a majority of the RCEP members, the Biden administration is **seeking to signal that it has not been cut out of trade in the region**.
  - **The IPEF also clearly has a geopolitical edge — as it doesn't include China.**
  - The U.S. Government has chosen **not to make the IPEF a trade deal.**
- Finally, the IPEF is part of the Biden administration's way of showing that despite its current focus on the war in Europe, and hot pursuit of Russia through economic sanctions, **it has not lost sight that Asia**, and the challenge from China, is prominent in the U.S. agenda.
  - Hence, the **US economic footprint has been missing from the Indo Pacific region**, allowing China to wield more influence.
  - IPEF is designed to **counter China's clout** in the region.

## WHO CAN JOIN THE IPEF?

- **India** has announced it will join the bloc despite its concerns over certain aspects of the IPEF.
- The other **11 countries** are Australia, Brunei, Indonesia, Japan, the Republic of Korea (South Korea), Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Vietnam, which together account for **40% of the world's GDP**.
  - **Taiwan is not part of it.**
- The 12 countries are **yet to begin negotiations**, which is the next step in the process.
  - **The negotiations will be along four main "pillars".**

## IPEF AND INDIA

- The very notion of an Indo-Pacific is **hollow without Indian participation**.
  - While India is typically **protectionist** when it comes to trade, the IPEF **does not make any demands to lower tariffs**.
- **The IPEF also comes at a time when India has clarified its strategic concerns with respect to China.**
  - India could be set to join the US-led effort to **form a trade grouping in the vital Indo-Pacific region** where China is trying to grow its influence.
  - **Increasing China-Russia alignment** may also lead India to seek even closer relations with the United States.
  - **China** has been trying to **dominate** all regional supply chain linkages **under RCEP**, and the Covid-19 pandemic and the war in Ukraine, have shown how over-dependency manifests in shortages.
- The IPEF **will not reduce trade barriers** between member countries – the agreement is "more of an **administrative arrangement**".
- Meanwhile, **India is not a part of the CP-TTP or the RCEP** and the **IPEF may be an alternative** for India to join a forum in its neighbourhood despite the framework not serving as an FTA.
- The IPEF's **non-specific and flexible nature** also suits India, which has held strong views on a range of issues like labour standards, environmental restrictions on fossil fuels, and data localisation.

## INDIA'S CONCERNS:

- India's main concern is on the issue of **data localisation**, on which it has locked horns with the US over the last two or three years.
- The US said that India's proposed data localisation requirements, under which firms need to store data within India, "will serve as **significant barriers to digital trade**" between the two countries, and will act as "market access barriers, especially for smaller firms".
- **Data localization** is the practice of storing data on any device that is physically present within the borders of the country where the data is generated.
- As of now, most of these data are stored, in a cloud, outside India.
- It simply means **restricting the flow of data** from one country to another.

### TRANS-PACIFIC PARTNERSHIP (TPP)

- The Trans-Pacific Partnership is a **trade agreement** among countries bordering the **Pacific Ocean**, including the United States, Japan, Vietnam, Australia, and Chile.
- **Objective:**
  - To promote economic growth; support the creation and retention of jobs; enhance innovation, productivity and competitiveness; raise living standards; reduce poverty in our countries; and promote transparency, good governance, and enhanced labour and environmental protections.

### COMPREHENSIVE AND PROGRESSIVE AGREEMENT ON TRANS PACIFIC PARTNERSHIP (CPTPP)

- The CPTPP is a **Free Trade Agreement (FTA)** between **11 countries** around the **Pacific Rim**.
- **Members:**
  - Canada, Mexico, Peru, Chile, New Zealand, Australia, Brunei, Singapore, Malaysia, Vietnam and Japan.
- After the US withdrew from negotiations of **Trans-Pacific Partnership (TPP)**, the remaining 11 participants scrambled to amend the text of the agreement, and the newly renamed **CPTPP was signed in March 2018**.
- **India did not join CPTPP.**

### REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP)

- **RCEP is the world's largest Free Trade Agreement (FTA)** and was signed by all **10 Association of Southeast Asian Nations is a regional organization (ASEAN)** members and key partners including China, South Korea, Japan, Australia and New Zealand at the **4<sup>th</sup> RCEP leaders' summit in November 2020**.
- **India withdrew** from the RCEP largely because of **concerns it would open it up to Chinese goods amid an already wide trade imbalance with China**, and the failure of the agreement to adequately open up to services.

### CRITICISM OF THE ARRANGEMENT

- The biggest criticism of IPEF in other capitals in Asia is that it is still too vague and lacks enough substance.
- There is also some skepticism of U.S. initiatives that don't carry any "dollar value".
- With market access to U.S. and tariff reductions off the table, there are questions about how much "skin in the game" Washington will bring.
  - Previous initiatives like the Blue Dot Network, and the Build Back World initiative with G-7 partners have not brought in the sort of funding required for emerging economies in the region.
  - A Quad initiative for \$50 billion in financing infrastructure projects over five years seems unambitious, compared to U.S. spending in other regions, and even on Ukraine in the past few months.
- Finally, in selling the IPEF back home in Washington, the U.S. appears to be making the deal more about benefits to the U.S. economy than to the Indo-Pacific region as a whole.

### STATUS OF RUSSIAN INVASION ON UKRAINE

**Context:** With no peace talks on the table and neither side showing any signs of compromise, the war is likely to grind on for many more weeks.

### THE CURRENT STATUS

- **Russia started the war on February 24 on three fronts-**
  - its troops moved in from the Belarussian border in the north.
  - from the separatists-controlled parts of Donbas in the east.
  - from the Russian-controlled Crimean Peninsula in the south.
- While announcing his "special military operation", President Vladimir Putin said "demilitarization and de-Nazification" of Ukraine were his goals.
- The Russians sought to envelope Kyiv, while its troops attacked cities in the east and south.





- While its forces made gains in the east and south, they faced stiff resistance from the Ukrainian forces in the north and northeast.
- As its advances slowed down, Russia pulled back troops from around Kyiv, ending its efforts to envelope the city, and retreated from Kharkiv, Ukraine's second largest city and focused its resources on the east.
  - The southern city of Kherson had fallen into Russian hands in the initial days of the war.
- From the south, Russian troops have moved towards the outskirts of Zaporizhzhia, taking over the eponymous nuclear plant, the largest in Europe.
- In the eastern Donbas region, the Russians have taken almost all major cities.
  - They took Mariupol, a Sea of Azov port city known for its steel plants, last month after a prolonged siege.
  - They took Lyman in Luhansk while advancing towards Severodonetsk, the easternmost city in Ukrainian hands.

## The course of the crisis and conflicts on the Russia-Ukraine line

Armed conflict between pro-Russian separatists and the Ukrainian army has taken nearly 15,000 lives since 2014

### BEGINNING OF THE TENSION

2013

Demonstrations broke out after Former Ukrainian President **Viktor Yanukovich** refused to sign an EU agreement.

### ILLEGAL ANNEXATION OF CRIMEA

2014

March

Russia illegally annexed Crimea

May

Pro-Russian separatists claimed two so-called states, **Donetsk People's Republic** and **Luhansk People's Republic**

Petro Poroshenko won the presidential election

### MALAYSIAN PLANE CRASH

July

A Malaysian plane was shot down by a Russian-made missile over Ukrainian airspace

2015

Clashes between the separatists and the Ukrainian army in Donbas turned into trench warfare

2018

March

The US approved the sale of anti-tank weapons to Ukraine

October

Ukraine participated in the air exercise held by the US and NATO

2019

April

Volodymyr Zelenskyy was elected the president of Ukraine with the promise of retaking the Donbas region

RUSSIA

UKRAINE

DONBAS REGION

### RUSSIAN MILITARY BUILD-UP BEGINS

2021

October

Russia began amassing troops and weaponry along the Ukrainian border

December

Russia announced preconditions for the withdrawal of its troops, including guarantees that Ukraine would not join the alliance and a reduction in NATO troop deployments in Eastern Europe

2022

February

Putin officially recognized the so-called administration of separatists in Ukraine

## SANCTIONS AND THE RUSSIAN ECONOMY

- **Russia's economy is expected to contract this year.**
  - But the sanctions and their impact on the economy are unlikely to influence the Kremlin's strategic thinking for a number of reasons.
  - First, the war and the western response to it appear to have bolstered Mr. Putin's standing in Russia.
  - Second, despite the sanctions, the Russian economy doesn't face any imminent collapse.
  - The sanctions also jacked up commodity prices, especially that of oil and gas, which is helping Russia, a major oil and gas exporter.
  - Europe remains dependent on Russian gas — close to 40% of its gas requirements are met through imports from Russia.
  - Its attempts to diversify its gas imports by buying LNG from countries such as Qatar and Libya have so far been not successful.
- The Russian blockade of Ukraine's sea ports is threatening to send food prices soaring which could impact global food supplies and food security.
- This has prompted several European countries to reach out to Mr. Putin, seeking a solution.
  - Moreover, countries outside the Western alliances have not joined the sanctions, which means Russia is not as isolated internationally as the West claims it is.

## PEACE PROCESS

- Both Russia and Ukraine have held multiple rounds of talks, in Minsk as well as in Istanbul, since the war began, but there has been no breakthrough.
- **In the last round of the Istanbul talks, Ukraine had apparently made a peace proposal.**
  - Ukraine proposed a 15-year consultation period for Crimea (during this period Kyiv won't contest Russia's control of the peninsula) and
  - direct talks between Presidents Volodymyr Zelensky and Mr. Putin on the status of Donbas.
  - U.S. President Joe Biden accused Russia of committing "genocide" in Ukraine. The peace process collapsed.

## WTO MINISTERIAL CONFERENCE

**Context:** The 12th Ministerial Conference of the World Trade Organization recently agreed to a series of deals relating to the temporary waivers on Covid-19 vaccines, a moratorium on e-commerce trade, food security and setting limits on harmful fishing subsidies.

### WORLD TRADE ORGANIZATION (WTO)

- The World Trade Organization is the only international organization that deals with the rules of trade between countries.
- Founded in 1995, the WTO is run by its 164 members, and according to its rules, all decisions are taken through consensus and any member can exercise a veto.
- **AIM:**
  - Its aim is to promote free trade, which is done through trade agreements that are discussed and signed by the member states.
  - The WTO also provides a forum for countries to negotiate trade rules and settle economic disputes between them.

### STRUCTURE OF THE WORLD TRADE ORGANIZATION

#### THE MINISTERIAL CONFERENCE

- The Ministerial Conference of the WTO meets every two years to make important decisions about existing trade agreements.
  - The Ministerial Conference holds the authority to make decisions on any aspects of all multilateral agreements made under the WTO.
- The Conference includes representatives from all members of the WTO.
- It gives equal representation to all its members regardless of the size of their economy or share in international trade.
- It can be thought of as the legislative branch of the WTO.
- The WTO is headed by the Ministerial Conference, while the daily operations are carried out by three administrative bodies:
- **GENERAL COUNCIL**
  - The General Council comprises the representatives of all member countries and acts as the representative of the Ministerial Conference when it comes to daily operations.
  - Its job is to carry out the implementation and monitoring function of the WTO.
  - The General Council is further divided into multiple councils and committees that focus on specific topics.
  - Examples of such bodies include the Council on Goods, the Councils on Services, the Committee on Textiles under the Council on Goods, etc.
- **DISPUTE SETTLEMENT BODY**
  - The Dispute Settlement Body is a part of the General Council and is responsible for settling trade disputes between member states.
  - There is also an Appellate Body, where member states can appeal any decisions made against them during a dispute settlement.
- **TRADE POLICY REVIEW BODY**
  - The Trade Policy Review Body is also a part of the General Council and is responsible for ensuring the trade policies of member states are in line with the goals of the WTO.
  - Member countries are required to inform the WTO about changes in their laws and trade policies.
  - The body undertakes regular reviews of the policies to ensure they conform to the rules of the WTO.
  - This is part of the monitoring function of the WTO, and it helps the WTO to adapt to the changing economic landscape.

## FUNCTIONS OF THE WTO

### • TRADE NEGOTIATIONS

- The WTO facilitates trade negotiations among countries by providing a framework to structure the agreements, as well as providing dispute resolution mechanisms.
- It creates an international legal framework that ensures the smooth exchange of goods and services among the member countries.

### • IMPLEMENTATION AND MONITORING

- Once the agreements are negotiated, the job of the WTO is to ensure that the signatory countries adhere to their commitments in practice.
- It also produces research based on the impact of the agreements on the economies of the countries involved.

### • DISPUTE SETTLEMENT

- The WTO also acts as a dispute settlement body when there is a trade conflict between its member states.
- The members of the WTO can file complaints against other member states if they feel the trade and economic policies of a country are divergent from their commitments under one of the agreements of the WTO.
- Following the complaint, there are formal hearings like a court until a settlement is reached.

### • BUILDING TRADE CAPACITY

- The WTO runs special programs to support developing countries by helping them build the capacity to participate in free trade with more developed countries.
- It also gives concessions under certain agreements to low-development countries to ease them into free trade with other countries.

### • OUTREACH

- Finally, the WTO carries out lobbying and outreach across the world as a part of its larger objectives to promote free trade.
- They try to persuade governments to reduce barriers to trade to free, fair, and open markets around the world.

## HIGHLIGHTS OF 12TH MC

### • CURTAILING HARMFUL FISHING SUBSIDIES

- The WTO passed a multilateral agreement that would curb 'harmful' subsidies on illegal, unreported and unregulated fishing for the next four years, to better protect global fish stocks.
- Since 2001, member states have been negotiating the banning of subsidies that promote overfishing.
- The current agreement, which establishes new trading rules, is the second multilateral agreement in WTO's history.
- WTO members have for the first time, concluded an agreement with environmental sustainability at its heart.
- India and other developing countries were able to win some concessions in this agreement.

### • ISSUES:

- Critics argued that this agreement would only restrict and not eradicate subsidies on illegal fishing.
- The only exception for continuing subsidies for overfished stock is when they are deemed essential to rebuild them to a biologically sustainable level.
- Overfishing refers to exploiting fishes at a pace faster than they could replenish themselves — currently standing at 34% as per the UN Food and Agriculture Organization (FAO).
- The agreements hold that there would be no limitation on subsidies granted or maintained by developing or least-developed countries for fishing within their exclusive economic zones (EEZ).

## • GLOBAL FOOD SECURITY

- Members agreed to a binding decision to exempt food purchased by the UN's World Food Programme (WFP) for humanitarian purposes, from any export restrictions.
- In light of the global food shortages and rising prices caused by the war between Ukraine and Russia, the group's members issued a declaration on the importance of trade in global food security and that they would avoid bans on food exports.
- However, countries would be allowed to restrict food supplies to ensure domestic food security needs.
- India's key demand to allow it to export food from its public stockholdings to other countries will reportedly be discussed in the next Ministerial Conference in 2023.
- Negotiators could not reach agreements on issues such as permissible public stockholding threshold for domestic food security, domestic support to agriculture, cotton, and market access.
- The central premise of the agreements was to ensure availability, accessibility and affordability of food to those in need, especially in humanitarian emergencies.
- It encouraged member countries with available surplus to release them on international markets in compliance with WTO regulations.
- It instituted a work programme to come up with measures to help LDCs (least-developed countries) and NFIDCs (Not Food Importing Developing Countries) enhance their domestic food security and bolster agricultural production.

## WORLD FOOD PROGRAMME

- The World Food Programme (WFP) is an agency of the United Nations (UN) that is dedicated to alleviating world hunger.
  - The WFP was established in 1961.
- In 2020 it was awarded the Nobel Prize for Peace for its efforts to combat hunger and "its contribution to bettering conditions for peace in conflict-affected areas."
- It was also recognized for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict.

## • E-COMMERCE TRANSACTIONS

- Broadly, ETs consist of online deliveries such as music, e-books, films, software and video games. They differ from other cross-border e-commerce since they are ordered online but not delivered physically.
- During the MC12 session, India has asked the WTO to review the extension of the moratorium on custom duties on e-commerce transactions, which include digitally-traded goods and services
- The commerce and industry minister of India argued that developing countries faced the brunt of the financial consequences of such a moratorium.
- From 2017-2020, developing countries lost a potential tariff revenue of around \$50 billion on imports from only 49 digital products.
- WTO members had first agreed to not impose custom duties on electronic transmissions in 1998, when the internet was still relatively new.
- The moratorium has been periodically extended since then.
- Member countries agreed to extend the current moratorium on not imposing customs duties on electronic transmission (ET) until MC13 — scheduled to take place in December 2023.

## • COVID-19 VACCINE PRODUCTION

- WTO members agreed to temporarily waive intellectual property patents on Covid-19 vaccines without the consent of the patent holder for 5 years, so that they can more easily manufacture them domestically.
- Rich pharmaceutical companies had strongly opposed this, arguing that IP's do not restrict access to Covid vaccines and that the removal of patent protections gives researchers that quickly produced life-saving vaccines, a negative message.
- The waiver agreed by the WTO was criticized by advocacy groups for being narrow in scope, as it did not cover all medical tools like diagnostics and treatments.



## EMERGENCY VISAS

**Context:** The Union Home Ministry granted emergency visas to 111 Hindus and Sikhs from Afghanistan.

### WHAT IS AN EMERGENCY VISA?

- It is granted to foreigners who are not covered in the available categories of visa but need to visit India urgently due to a family emergency.
  - Such a single-entry visa is issued by Indian Missions/Posts for an appropriate period of time.
- Emergency Visa for India is only issued in case of genuine emergency like death or serious illness of a blood relative.
- The Urgent or Emergency Visa to India is subject to acceptance and discretion of Immigration Officers and at their judgment call.
- According to the older document, Afghans were not covered under the category and had to physically present themselves at the Embassy to get the visa.
- However, given the current situation in Kabul, which has forced to shut down the embassy as well, all Afghans have been permitted to open e-visa with no religion-based priority.
  - Citizens from 180 countries are eligible for an Emergency Visa to India.

## WEST SETI POWER PROJECT

**Context:** India will be taking over an ambitious hydropower project in Nepal — West Seti — nearly four years after China withdrew from it.

### DETAILS:

- India's National Hydro Power Corporation (NHPC) has already begun preliminary engagement of the site in far-western Nepal.
- The CWE Investment Corporation, a subsidiary of China Three Gorges Corporation, had informed the Nepal Government in August 2018 that it would not be able to execute the 750-MW West Seti Hydropower Project it had undertaken on the ground that it was financially unfeasible and its resettlement and rehabilitation costs were too high.
- Prior to that, the Snowy Mountain Engineering Corporation (SMEC) had been refused renewal of its licence following its failure to begin the work "convincingly" during an entire decade from the mid-1990s.
  - The Australian company had been given a generation licence for 30 years under a Build, Own, Operate and Transfer (BOOT) scheme.

**Build-operate-transfer** or build-own-operate-transfer is a form of project delivery method, usually for large-scale infrastructure projects, wherein a private entity receives a concession from the public sector to finance, design, construct, own, and operate a facility stated in the concession contract.

### ABOUT THE PROJECT:

- It is a proposed 750-megawatt Hydropower Project, which is to be built on the Seti River in far-western Nepal, which has remained on the drawing board for the last six decades.
- Lately, the government has remodeled the project as West Seti and Seti River (SR-6), a joint storage project, with the capacity to generate 1,200 megawatts of electricity.
- This storage or reservoir will fill up during the monsoon season and the water will be drawn to generate power during peak hours each day in the dry season.
  - Its success is expected to restore India's image in Nepal and give it weightage in future considerations for hydropower projects, when competition is bound to be tough. West Seti, therefore, has the potential to be a defining model for Nepal India's power relations in future.



### INDIA -NEPAL POWER RELATIONS

- Nepal is rich in power sources with around 6,000 rivers and an estimated potential for 83,000 MW.
- An ambitious Mahakali treaty was signed back in 1996, to produce 6,480 MW, but India has still not been able to come out with the Detailed project Report.

- The Upper Karnali project, for which the multinational GMR signed the contract, has not made any headway for years.
- Nepal's Constitution has a provision under which any treaty or agreement with another country on natural resources will require Parliament's ratification by at least a two-thirds majority.
  - That will also mean homework will be required before any hydro project is signed and given for execution.
- What has helped build faith recently is India's success in executing the 900-MW Arun Three project in eastern Nepal's Sankhuwa Sabha, which is being executed by India's Sutlej Vidhyut Nigam under a BOOT scheme, and whose foundation was laid in 2018 and which is set for completion by 2023.
- The company executing Arun Three is also being awarded the 695-MW Arun Four project, followed by the decision to award West Seti to NHPC.
- During the Indian PM's visit to Nepal in 2014, he had said India must start executing its projects timely.

## JUNETEENTH

**Context:** In 2021, US President signed a law to commemorate June 19 or Juneteenth as a federal holiday to commemorate the end of slavery after the American civil war (1861-65).

### WHAT IS JUNETEENTH?

- Juneteenth– the portmanteau of June and nineteenth– is the oldest nationally celebrated commemoration of the ending of slavery in the US, observed on June 19 every year.
  - It is also known as Emancipation Day or Juneteenth Independence Day.
- **HISTORY BACKGROUND:**
  - On January 1, 1863, then-president Abraham Lincoln issued the Emancipation Proclamation, which declared that "all persons held as slaves" within the states in rebellion "are, and henceforward shall be free."
  - More than two years after Lincoln's proclamation, many slave owners continued to hold their slaves captive by hiding this information from them and keeping them for one more harvest season, as per the Congressional Research Service (CRS).
  - On June 19, 1865, two months after the Civil War had ended, Major General Gordon Granger, from the victorious Union side, arrived in Galveston, Texas, and issued an order to free the last enslaved people on US soil.

### How is Juneteenth celebrated?

It is celebrated by the African American community since 1865

1980 - Texas became the first state to officially observe Juneteenth



of 50 states now recognise Juneteenth as a holiday

US presidents typically acknowledge the day, however, it's not national holiday yet.

## UN REPORT ON THE TALIBAN REGIME

**Context:** A new report from the Analytical Support and Sanctions Monitoring Team of the UNSC says that foreign terrorist organisations continue to enjoy safe haven under the Taliban regime.

### WHAT IS THE MANDATE OF THE MONITORING TEAM?

- The monitoring team assists the UNSC sanctions committee.
- India is currently the chair of the sanctions committee, which comprises all the 15 UNSC members.
- This report — the 13th overall — is the first since the Taliban returned to power in August 2021.
- This is the first of its reports not informed by official Afghan briefings.
- Instead, the team relied on consultations with UN member states, international and regional organisations, private sector financial institutions, and the work of bodies such as the United Nations Assistance Mission in Afghanistan.

### WHAT DOES THE REPORT SAY?

- Two India-focussed terrorist groups, Jaish-i-Mohammed (JiM) and Lashkar-e-Taiba (LeT), are reported to have training camps in Afghanistan.

- Both the groups enjoy close links with the Taliban leadership, with the LeT having a history of providing finance and training expertise to Taliban operations.
- The report believes the Kandahari (Durrani) Taliban to be in the ascendancy among the Taliban leadership, with Pashtuns getting precedence over non-Pashtuns.
- Several key Tajik and Uzbek commanders in the north have been replaced with Pashtuns from the south.
- **OTHER TERRORIST GROUPS**
  - Tehreek-e-Taliban Pakistan (TTP) constitutes the largest component of foreign terrorist fighters in Afghanistan mostly located along the east and south-east Afghanistan-Pakistan border areas.
  - The report also notes that the Kabul airport attack of August 26 has elevated the Islamic State in Iraq and the Levant-Khorasan (ISIL-K) to be the most prominent Da-esh affiliate in the region.
  - Meanwhile, al-Qaeda continues to enjoy a close relationship with the Taliban, celebrating the latter's success by "renewing its pledge of allegiance to Hibatullah".

## THE UNITED NATIONS

The United Nations is an international organization founded in 1945 after the Second World War by 51 countries committed to maintaining international peace and security, developing friendly relations among nations and promoting social progress, better living standards and human rights.

### The UN has 4 main purposes

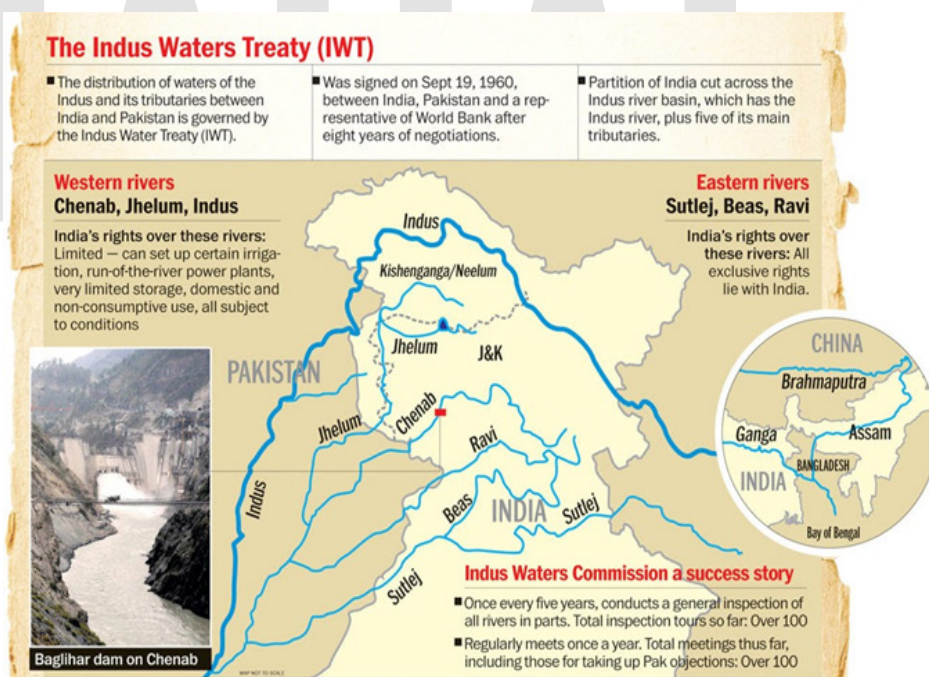
- To keep peace throughout the world;
- To develop friendly relations among nations;
- To help nations work together to improve the lives of poor people, to conquer hunger, disease and illiteracy, and to encourage respect for each other's rights and freedoms;
- To be a centre for harmonizing the actions of nations to achieve these goals

## INDUS WATER TREATY

**Context:** Indian and Pakistani negotiators ended another round of talks as part of the Indus Water Treaty on "cordial" terms recently.

### WHAT IS THE INDUS WATERS TREATY?

- In the year 1960, India and Pakistan signed a water distribution agreement came to be known as Indus Waters Treaty which was orchestrated by the **World Bank**.
- This agreement took **nine years of negotiations** and divides the control of six rivers between the two nations once signed.
- **Under this treaty, India got control over:**
  - Beas
  - Ravi
  - Sutlej
- **While Pakistan got control over:**
  - Indus
  - Chenab
  - Jhelum





- Under the treaty signed between India and Pakistan in 1960, all the waters of the three eastern rivers, **averaging around 33 million acre-feet (MAF)**, were allocated to India for exclusive use.
- The waters of the western rivers - Indus, Jhelum, and Chenab - **averaging to around 135 MAF**, were allocated to Pakistan except for 'specified domestic, non-consumptive and agricultural use permitted to India'.
- India has also been given the **right to generate hydroelectricity** through the run of the river (RoR) projects on the western rivers which, subject to specific criteria for design and operation, is unrestricted.

### IMPORTANCE OF THE TREATY FOR PAKISTAN

- Indus, Chenab and Jhelum are the **lifelines of Pakistan** as the country is highly dependent on these rivers for its water supply.
- Since these rivers **do not originate from Pakistan** but flow to the country through India, Pakistan fears the threat of drought and famine.
- While Chenab and Jhelum originate from India, Indus originates from China, making its way to Pakistan via India.

### HOW IS INDIA UTILISING THE WATERS OF EASTERN RIVERS?

- It allows India to use **only 20 per cent of the total water** carried by the Indus River.
- To utilise the waters of the Eastern rivers which have been allocated to India for exclusive use, **India has constructed the Bhakra Dam** on Satluj, Pong and **Pandoh Dam** on Beas and Thein (Ranjitsagar) on Ravi.
- These storage works, together with other works like Beas-Sutlej Link, Madhopur-Beas Link, and Indira Gandhi Nahar Project have **helped India utilise nearly the entire share** (95 per cent) of the eastern river waters.
- However, about **two MAF of water annually** from Ravi is reported to be **still flowing unutilised to Pakistan**.
- To **stop the flow** of these waters, the Centre is currently taking three steps –
  - resumption of construction of Shahpurkandi project;
  - construction of Ujh multipurpose project; and
  - a second Ravi-Beas link below Ujh.

### ISRAEL SIGNS UAE FREE TRADE DEAL

**Context:** Israel signed a free trade deal with the United Arab Emirates recently, its first with an Arab country.

#### DETAILS ABOUT THE DEAL:

- The deal will lead to the **removal of tariffs on 96 percent of goods** traded between the two countries within five years.
- The free trade agreement may allow the **annual value of trade to rise to \$10 billion** within five years.
- Though official relations between Israel and the U.A.E. are still new, commercial ties between the two have quickly overtaken those between countries Israel has had peace with for decades—Egypt and Jordan.
- The deal will **enhance** the trade of medicine, medical equipment, food, plastic goods and fertilizer, as well as Israeli jewelry.
- The deal will also **improve bilateral cooperation over intellectual property rights**, copyright and patents, particularly in the technology and agriculture sectors.

#### FREE TRADE AGREEMENT (FTA)

FTAs are arrangements between two or more countries or trading blocs that **primarily agree to reduce or eliminate customs tariff and non-tariff barriers** on substantial trade between them.

FTAs normally cover trade in goods (such as agricultural or industrial products) or trade in services (such as banking, construction, trading etc.).

FTAs can **also cover other areas such as intellectual property rights** (IPRs), investment, government procurement and competition policy etc.

Example: **India has negotiated FTA with many countries e.g., Sri Lanka and various trading blocs as well e.g., ASEAN.**

FTAs can be categorized as **Preferential Trade Agreement, Comprehensive Economic Cooperation Agreement, Comprehensive Economic Partnership Agreement (CEPA).**



- It could also help Israeli and Emirati companies **compete for government contracts** in either country.
- The deal builds on the exponential growth in trade and investment the U.A.E. and Israel have enjoyed since the signing of the **Abraham Accords**. From September 2020 to March 2022, non-oil trade surpassed \$2.5 billion, while it reached \$1.06 billion in the first three months of 2022—five times the total from the same period in 2021.

### The Abraham Accords

- The Abraham Accords are a **joint statement** between the State of Israel, the United Arab Emirates, and the United States, reached on August 13, 2020.
- The term was used to refer collectively to agreements between Israel and the United Arab Emirates (the Israel–United Arab Emirates normalization agreement) and Bahrain (the Bahrain–Israel normalization agreement).
- The statement marked the **first public normalization of relations between an Arab country and Israel** since that of Jordan in 1994.

### 'RED-FLAG' LAW

**Context:** Recently, the United States House of Representatives on passed a 'red-flag' bill aimed at barring those considered dangerous to themselves or others from possessing firearms.

#### Key Details

- The bill has come in light of two devastating mass shootings in the US that occurred in less than a fortnight.
- Currently, **19 US states**, and also Washington D.C., have these 'red-flag' laws in place.
- The latest push is to create a federal law of the same nature to check gun violence.

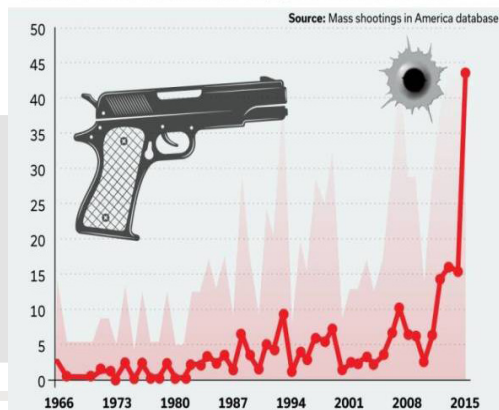
#### About 'red flag' laws or 'extreme risk protection laws'

- These laws are among the possible solutions offered to tackle the endemic gun violence in the United States.
- These laws allow courts to issue a **special protection order** which authorises the police to temporarily confiscate guns from people that display concerning behaviour, such as issuing threats of harm.
- The first 'red-flag' law was introduced in Connecticut in 1999, after a mass shooting occurred in the state.

### REGIONAL ENGLISH LANGUAGE OFFICE (RELO) (2005)

- It is a **wing of the US Embassy in India** that was established as a part of its **Public Diplomacy Section**.
- **Aim:** To strengthen India-US ties by supporting English learning.
- It is headquartered at the US Embassy office in **New Delhi**.
- RELO's mission is to support the **effective teaching and learning of English in Afghanistan, Bhutan and India**, while enhancing mutual understanding between the US and these countries.
- RELO collaborates with state government and educational institutions to support them in teacher training, curriculum development and other English language training projects.

### MASS SHOOTINGS IN THE US FROM 1996 TO 2015



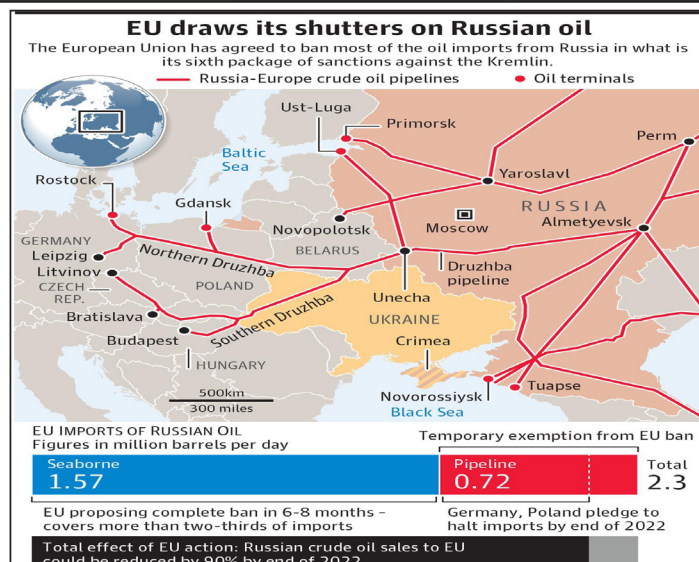
### EUROPEAN UNION'S BAN ON RUSSIAN OIL

**Context:** The European Union member states recently **reached an agreement to ban 90% of Russian crude oil imports** by the end of the year.

#### THE RATIONALE BEHIND SUCH A MOVE

- The Russian economy is **heavily dependent on energy exports**, with the EU paying billions of dollars every month to Russia for its crude and refined products.
- The EU wants to **block this massive revenue inflow**.

- The EU has been attempting, ever since the Ukraine invasion, to build consensus on ways to hurt Russia economically so that **it is forced to roll back its military offensive**.
- The **most obvious route** was to stop buying Russian energy, which isn't easy given European households' dependence on Russian oil and gas.
- However, in the context of **two long term EU objectives** member states agreed to make a start by phasing out Russian oil
  - reducing fossil fuel dependence in favour of renewables, and
  - eliminating dependence on Russian energy for greater strategic autonomy and energy



## THE EUROPEAN UNION

- The European Union is a **unified trade and monetary body** of **27 member** countries.
- It **eliminates all border controls** between most EU members.
- The open border allows the free flow of goods and people.
- Any product manufactured in one EU country can be sold to any other member **without tariffs or duties**.
- Practitioners of most services, such as law, medicine, tourism, banking, and insurance, can operate a business in all member countries.
- The **Treaty of Maastricht** formed the European Union common market in 1993.
- The EU is the world's third-largest economy after the United States and China.
- The **euro is the common currency** for the EU area.
- **The Difference Between the Eurozone and the EU**
  - The eurozone consists of all countries that use the euro.
  - All EU members pledge to convert to the euro, but only 19 have done so as of 2022.
  - They are Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.

## THE TERMS OF THE 'COMPROMISE DEAL'

- EU leaders have, in principle, agreed to **ban all seaborne imports of Russian crude**, which account for **two-thirds of EU's oil imports** from Russia.
- However, with Germany and Poland pledging to phase out even their pipeline imports from Russia by the end of the year, the embargo would **eliminate 90% of Russian oil imports**.
- The remaining 10% that's been allowed represents a free pass for Hungary, the Czech Republic, Slovakia, and Bulgaria to continue imports via the **Druzhba pipeline, the world's largest oil pipeline network**.
- Additionally, **Hungary has obtained a guarantee** that it could even import seaborne Russian oil in case of a disruption to their pipeline supplies.
  - This was deemed a legitimate concession since the pipelines do pass through the war zone in Ukraine.

## WHY WAS EXEMPTION GIVEN FOR PIPELINE IMPORTS?

- The exemption for pipeline imports was made on the logic that **landlocked countries** (Hungary, Czech Republic and Slovakia) that are **heavily dependent on Russian pipeline oil** do not have a ready option to switch to alternative sources in the absence of ports.
- While Hungary imports 65% of its oil via pipeline from Russia, 50% of the Czech Republic's oil imports are Russian, while Slovakia gets 100% of its oil from Russia.
- Bulgaria, which gets 60% of its oil from Russia, is not landlocked.
- But its **refineries at present are only equipped to process Russian crude**.

- Until it invests in infrastructure to be able to process non-Russian crude delivered to its ports, it wants to be able to continue importing Russian oil via pipeline and has accordingly claimed the exemption.
- **Other elements in the sixth package of sanctions**
  - **Cutting off Sberbank**, Russia's largest bank that holds one-third of Russian banking assets, from the SWIFT messaging system;
  - a **ban on three Russian-owned broadcasting networks** from the EU;
  - **sanctions on individuals** responsible for war crimes in Ukraine; and
  - a **ban on EU-based firms** offering insurance, financing, brokering or any other technical services related to the transport of oil to Russian ships — a measure aimed at curbing Russia's ability to divert its oil to non-EU destinations.

## HOW WILL THE SANCTIONS AFFECT RUSSIA?

- A two-thirds cut in Europe's imports of Russian oil might cause Russia an **annual loss in revenue of \$10 billion**.
- Given Russia's **limited storage infrastructure**, the cutback in demand would force Russia to find other markets.
- Russia might have to **cut production by 20-30%**.
- So far, Asian importers, especially **India**, have **absorbed some of the excess inventory** at discounted prices.
- But it remains unclear if the embargo would have any impact on Russian military operations in Ukraine.

## HOW WILL THE SANCTIONS AFFECT EUROPE?

- It is likely to further **fuel inflation** in Europe, where many countries are already facing a cost-of-living crisis.
- European lifestyles have tended to take cheap Russian energy for granted, and if inflation peaks further, the EU runs the risk of losing public support for harsh sanctions.

## IMPORT OF RUSSIAN GAS

- Compared to Russian oil, Europe's **dependence on Russian gas is much greater**, and this embargo leaves the import of Russian gas which accounts of **40% of Europe's natural gas imports** untouched.
- In other words, **Europe will continue to pay Russia for gas imports**.
- But since crude is more expensive than natural gas, the **oil ban is expected to hurt Russian revenues**.

## INDIA'S RESPONSE

- India **ramped up purchases of Russian crude** at discounted prices in the months following the Russian invasion, and this policy is expected to continue.
- The announcement of the EU ban caused an immediate surge in oil prices, and as Europe seeks alternate sources – from West Asia, Africa and elsewhere — for its oil needs, **prices are expected to stay high**.
- In this context, with **Russia reportedly offering discounts** of \$30-35 per barrel, **India has found it convenient to make the most of the cheap Russian crude on offer**.

## GUN CONTROL LEGISLATION OF DIFFERENT COUNTRIES

**Context:** The U.S. recently witnessed **two episodes of mass shootings in a span of 11 days** that killed more than 30 people including elementary school children.

## GUN LAWS IN THE U.S.

- The **Second Amendment of the U.S. constitution** states that the right of the people to keep and bear Arms shall not be infringed.
  - It is often attributed as the **root cause** of all firearm-related violence.

- The U.S. Supreme Court previously held that the amendment protects the **right to “keep and bear arms” for self-defense**, while federal courts argue of a potential infringement if federal, state and local firearm regulations circumvent this right.

## ARMS REGULATIONS IN CANADA

- **Canada introduced legislation to amend its Firearms Act recently.**
  - It is proposing to institute a **‘national freeze’ on handguns** — preventing sale, purchase, transfer and import of handguns into Canada.
  - Handguns were used in 49% of all firearm-related homicides in 2020.
  - Possessing a fully-automatic weapon, unless **registered before 1978**, is **illegal** in Canada.
  - Gun licenses are **valid for five years** and accorded to individuals at least **18 years** of age upon completing the Canadian Firearms Safety Course.
  - Vetting is undertaken to ensure that **applicants do not have a history** of violence, are suffering from mental illnesses or were previously barred from the process.
  - The proposed legislation would **revoke licenses** from holders deemed to be a danger to themselves or others (by means of partner violence, gender-based violence, among others).
  - It is mandatory for individuals and businesses to **update records** before transferring ownership of non-restricted items.

## GUN LAWS IN JAPAN

- **Acquiring a gun in Japan is particularly difficult**
  - one has to present a **series of documents**, establish their ‘needs’, undertake an approximately month-long training on handling and safety, pass a scrutiny of criminal records and medical health, and then an exam to prove eligibility.
- Buying a weapon too requires a **separate certification** (from the dealer) mentioning the desired model.
- Applicants must be **18 years**, not suffering from mental illnesses, not having a license revoked less than five years ago, not dependent on alcohol or narcotic substances, and have a fixed residence.
- Any **violation is punishable** with an imprisonment for a period up to **three years**, which could extend up to five years or more along with a fine of 10 million yen if done for “purpose of profit”.

## GUN LAWS IN NEW ZEALAND

- The legislation requires **firearms dealers to provide licence numbers** of all its employees at a facility, including those not directly involved in handling any arms but having access to the premises.
- It is now also mandatory for all weaponry to have an **identification number**.
- In case a dealer receives an item without the same, they are **required to have them stamped or engraved** within 30 days of receipt.
- Applicants must be at least **16 years of age** and undertake training in handling and storing firearms, and pass an exam.
- The vetting process requires the applicant to furnish contact details of known people to ascertain that she/he is a **‘fit and proper person’**.
- In addition, if an applicant has resided overseas for six months or more in the past 10 years, she/he would have to provision a criminal history check from each country.

## GUN LAWS IN INDIA

- Gun licence applicants in India must be at least **21 years** and not convicted of any offence involving violence, of ‘unsound mind’ or a threat to public safety and peace.
- Upon receiving an application, the licensing authority (i.e., **the Home Ministry**), asks the officer in-charge of the nearest police station to **submit a report about the applicant after thorough vetting**.
- The **Arms Act amended in 2019 reduces the number of firearms** that an individual can procure from three to two.
- Indian laws are particularly **elaborate** in dealing with sale and unlawful trade of weapons.
- It also enlists specific provisions on curtailing the use of licensed weapons to ensure social harmony.



- No entity is permitted to sell or transfer any firearm which does not bear the name of the maker, manufacturer's number or any other visible or stamped identification mark.
- Any act of conversion (such as shortening the barrel of a firearm or converting an imitation firearm into a firearm) or unlawful import-export is punishable with an imprisonment term of **seven years**, which may extend to life imprisonment and be liable to monetary fines.

## OPERATION GANGA

**Context:** Nearly three months after the conclusion of Operation Ganga for evacuation of Indians from Ukraine, the **government is yet to clear the bills sent by six major airlines**, which deployed 76 flights for the exercise between February and March.

### ABOUT OPERATION GANGA

- 'Operation Ganga' is the initiative launched by the government of India to **bring back Indians stranded in Ukraine**.
- It has also set up **24×7 control centres** to assist in the evacuation of Indians through the border crossing points with Hungary, Poland, Romania and Slovak Republic.
- A **Twitter handle, 'OpGanga Helpline'**, has also been dedicated to the mission, where all information regarding evacuation process and advisories of embassies are shared to keep everyone up-to-date.
- Thousands of Indians, especially students studying medicine in Ukraine, have been stuck in the country since it closed its airspace as a security measure after **Russia launched "special military operations"**.

### SOME OTHER EVACUATION OPERATIONS CARRIED OUT BY INDIA

**Vande Bharat (2020):** When the Covid-19 pandemic hit the world, the Centre launched the Vande Bharat Mission to bring back **Indian citizens stranded in foreign countries**. In the multiple phases of the operation, about 60 lakh Indians were brought back as on 30th April, 2021.

**Operation Samudra Setu (2020):** It was a naval operation as part of the national effort to bring home Indian citizens from overseas during the Covid-19 pandemic. It successfully brought back 3,992 Indian citizens to their homeland by sea. **Indian Naval ships Jalashwa (Landing Platform Dock), and Airavat, Shardul and Magar (Landing Ship Tanks)** participated in this operation which lasted over 55 days and involved traversing more than 23,000 km by sea.

**Evacuation from Brussels (2016):** In March 2016, Belgium was hit by terrorist strikes at Brussels Airport in Zaventem, and one at Maalbeek Metro station in central Brussels. **A total of 242 Indians, including 28 crew members, returned to India** in a Jet Airways flight.

**Operation Raahat (2015):** In 2015, a conflict raged **between the Yemeni government and Houthi rebels**. Thousands of Indians were stranded and Yemen was not accessible by air due to a no-fly zone announced by Saudi Arabia. Under Operation Raahat, **India evacuated nearly 5,600 people from Yemen**.

**Operation Maitri (2015):** It is the joint relief and rescue operation by the Indian government and the Indian Armed forces **in the aftermath of the 2015 Nepal earthquake**. The joint Army-Air Force operation brought over 5,000 Indians back from Nepal by Air Force and civilian planes. The Indian army successfully evacuated 170 foreign nationals from the US, the UK, Russia and Germany.

**Operation Safe Homecoming (2011):** India launched 'Operation Homecoming' to **bring back Indian citizens stranded in conflict-torn Libya**. Under the operation, India evacuated 15,400 Indian nationals. The air-sea operation was conducted by the Indian Navy and Air India.

**Operation Sukoon (2006):** As Israel and Lebanon broke into military conflict in July 2006, **India rescued its stranded citizens by launching this operation, which is now famously known as the 'Beirut Sealift'**. It was the largest naval rescue mission since the 'Dunkirk' evacuation. The task force evacuated about 2,280 people including some Nepalese and Sri Lankan nationals between 19th July and 1st August 2006.

**1990 Kuwait Airlift (1990):** In 1990, when 1,00,000 Iraqi soldiers armed with 700 tanks marched into Kuwait, the royals and VIPs had fled to Saudi Arabia. The general public was left behind to fend for themselves. Over 1,70,000 of those stranded in Kuwait were Indians. **India kicked off the evacuation process in which over 1,70,000 Indians were airlifted and repatriated to India**.

## CHINA'S GROWING FOOTPRINT IN THE PACIFIC ISLANDS

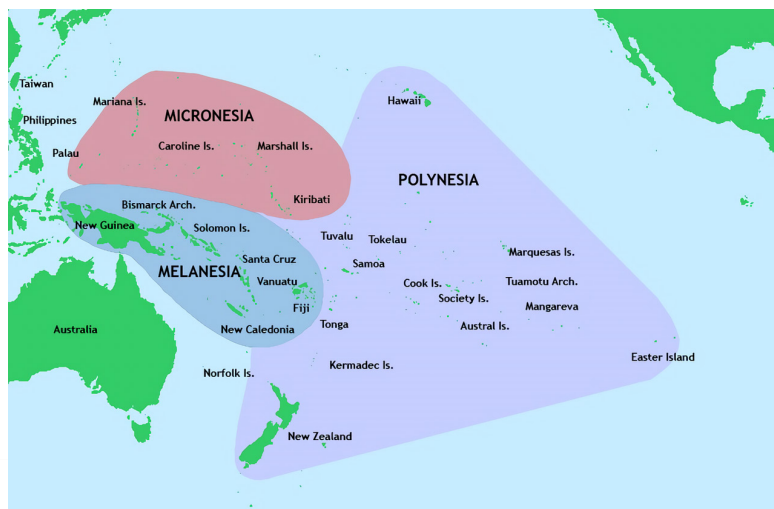
**Context:** During a meeting with the **14 Pacific Island Countries (PICs)**, China's effort to push through a **comprehensive framework deal**, the draft of which was leaked earlier, failed to gain consensus among the PICs.

### THE PACIFIC ISLAND COUNTRIES

- The Pacific Island Countries are a **cluster of 14 states** which are located largely in the **tropical zone of the Pacific Ocean** between Asia, Australia and the Americas.

- **THEY INCLUDE:**

- Cook Islands
- Fiji
- Kiribati
- Republic of Marshall Islands
- Federated States of Micronesia (FSM)
- Nauru
- Niue
- Palau
- Papua New Guinea
- Samoa
- Solomon Islands
- Tonga
- Tuvalu
- Vanuatu



- The islands are **divided** on the basis of physical and human geography into **three distinct parts** —
  - Micronesia,
  - Melanesia and
  - Polynesia.
- The islands are **very small** in land area, and are spread wide across the vast equatorial swathe of the Pacific Ocean.
  - As a result, though they are some of the smallest and least populated states, they have some of the **largest Exclusive Economic Zones (EEZs)** in the world.
  - Large EEZs translate into **huge economic potential** due to the possibility of utilizing the wealth of fisheries, energy, minerals and other marine resources present in such zones.
  - Hence, they prefer to be identified as **Big Ocean States**, rather than Small Island States.
  - Kiribati and FSM, both PICs, having **EEZs larger than that of India**.
- These countries have played an important role in major power rivalry as **springboards for power projection and laboratories** for developing and demonstrating strategic capabilities.
  - The major powers of the **colonial era** competed with each other to gain control over these strategic territories.
  - The Pacific islands also acted as one of the major **theatres of conflict during the Second World War** — between imperial Japan and the U.S.
- Due to the remoteness of these islands from the Soviet Union and major population centres of the world, some of the **major nuclear weapon test sites** of the U.S., the U.K. and France were located here.
- In addition, the 14 PICs, bound together by shared economic and security concerns, account for as many numbers of votes in the United Nations, and act as a **potential vote bank** for major powers to mobilize international opinion.

## WHAT DOES CHINA SEEK TO ACHIEVE FROM THE PICs?

- China does **not** have any particular **historical linkages** to the PICs unlike the Western powers.
- Therefore, its interest in the PICs is of **relatively recent origin**, and is linked to China's rise in the past few decades.
- The PICs lie in the natural line of expansion of **China's maritime interest** and naval power.
- They are **located beyond China's 'First Island Chain'**, which represents the country's first threshold of maritime expansion.
- The PICs are located geostrategically in what is referred to by China as its '**Far Seas**', the control of which will make China an **effective Blue Water capable Navy** — an essential prerequisite for becoming a superpower.
- At a time when the **Quadrilateral Security Dialogue** has emerged as a major force in the Indo-Pacific vis-à-vis China, the need to influence the PICs have become an even more pressing matter for China.
- Apart from the vast marine richness of the PICs, the **Taiwan factor** plays a major role in China's Pacific calculus.
  - China, which considers Taiwan to be a breakaway territory, is preparing for what seems like an inevitable military invasion.
  - In this context, it becomes **important to break Western domination** of island chains of the Pacific which could impede reunification.
  - Wooing the PICs away from the West and Taiwan will therefore make the **goal of Taiwan's reunification easier for China**.
  - China has been successful in getting **diplomatic recognition from 10** out of the 14 PICs through its economic largesse.
  - **Only four PICs** — Tuvalu, Palau, Marshall Islands and Nauru, currently **recognise Taiwan**.

### BLUE WATER NAVY

- A Blue Water Navy is one that has the **capacity to project itself over a much bigger maritime area than its maritime borders**.
- It is a Navy that can go into the vast, deep oceans of the world.
- However, while most navies have the capacity to send ships into the deep oceans, a Blue Water Force is able to carry out operations far from its borders, **without being required to return to its home port to refuel or re-stock**.
- While it is evident that Blue Water navies belong to the most powerful nations, there **is no one internationally agreed upon definition**.
- Owning **one or more aircraft carriers** is sometimes seen as a marker.

## IMPLICATIONS OF CHINA'S LATEST MOVE

- China has increasingly started talking about security cooperation in addition to its economic diplomacy towards the PICs.
- In April 2022, China signed a controversial security deal with the Solomon Islands, which raised regional concerns.
- Two draft documents prepared by the Chinese side were leaked, and gained the attention of regional leaders in the Pacific as well as the larger international community.
  - One of the documents is the "**China-Pacific Island Countries (PICs) Common Development Vision**", and the other is "**China-Pacific Islands Five-Year Action Plan on Common Development (2022-2026)**".
- The PICs as a collective did not agree to China's extensive and ambitious proposals, and therefore **China failed to get a consensus on the deal**.
- The intensification of China's diplomacy towards the Pacific Islands have made the powers who have traditionally controlled the regional dynamics like **the U.S. and Australia more cautious**.
  - The **U.S.** has started **revisiting its diplomatic priority** for the region ever since the China-Solomon Islands deal.
  - The role played by the U.S. in mobilizing opposition against China's proposed deal could not be ruled out as **FSM is the only country which recognizes China** and at the same time is **part of the Compact of Free Association with the U.S.**

- Australia, in the meanwhile, has sent its new Foreign Secretary to the islands for **revitalizing ties**, with promises of due priority and assistance to the PICs.

## THE BIHAR GOVERNMENT'S CASTE CENSUS

**Context:** Recently, the Bihar Cabinet approved a proposal to **carry out a caste-based 'count' in the State**.

### WHAT IS CASTE CENSUS?

- Caste Census is the demand to include the **caste-wise tabulation** of India's population in the upcoming exercise.
- Caste, a formidable cultural foundation of the Indian society, was last included in the Census of India back in 1931.
- While India publishes separate data on **Scheduled Castes (SC)** and **Scheduled Tribes (ST)**, since the first exercise in independent India in 1951, the **Census does not include data on other castes**.
- The practice was **stopped by the British with the 1941 Census**, citing financial constraints.
- The **Indian government did not pick up the dropped parameter**.

### WHY CASTE CENSUS?

- Almost all political parties in Bihar **identify themselves with a particular caste, sub-caste or community** for representation, and leaders cannot afford to take their political identity out of that caste or group.
- The objective behind this demand is to **bring out the recent changes** in caste groups and how resources may be best shared.
- The data will **help the State government** understand the **exact population of various caste groups** and **assess the socio-economic development** in every group, and the welfare schemes needed for their benefit.

### WHY THE CENTRE IS AGAINST A CASTE CENSUS?

- The Union Government has categorically **ruled out conducting a Socio-Economic Caste Census (SECC)**, stating that a caste census (except that for Scheduled Castes and Scheduled Tribes done traditionally) is unfeasible, administratively difficult and cumbersome.
- In the case of Bihar, the BJP's central leaders feel that the demand for a caste census in the State is an **attempt to revive Mandal politics** by identifying castes and sub-castes and their present status for electoral benefits.

### BENEFITS OF A CASTE COUNT

- **Social equality programmes and welfare measures** cannot be successfully implemented without comprehensive data and for this a caste count is necessary.
- In a modern state, a count of every category of citizens is necessary so that they can get the benefit of all welfare measures.
- In the absence of such data, there is **no proper estimate** for the population of other backward classes (OBC) s, extremely backward classes (EBCs) and several other groups within them.
- A caste-based count goes a long way in bringing a measure of objectivity to the debate on reservations.

### HAVE SUCH EXERCISES HAPPENED IN OTHER STATES?

- The **Tamil Nadu** government has appointed a commission to formulate a methodology to collect caste-wise particulars of its population and use that to come up with a report.
- States like **Karnataka, Odisha** and **Telangana** have carried out caste counts, calling it a "socio-economic survey".

### HAS THERE EVER BEEN A CASTE CENSUS?

- The **first census** in India began in **1872** and the periodic count in **1881** under British rule.
- Since then, the data on caste was always included, though **only till 1931**.
- The caste count was **excluded for the 1941 census** reportedly because of administrative and financial issues with England involved in World War II.
- Thus, the count of OBCs is, therefore, available for **1931**, when their share of the population was found to be about **52 percent**.
- In **2010**, the then Congress-led UPA government had **partially conceded** to the demand



- The caste enumeration was not done as part of Census 2011, but a separate Socio-Economic Caste Census (SECC) was conducted in the same year, which also gleaned data on caste.
- The names of some castes are **found in both the list** of Scheduled Castes and list of OBCs.
- There may be issues as some people would be **spelling** their caste differently from others and that would lead to an inaccurate count.
- Those who collect the data simply record the answer. The **enumerator is not an investigator or verifier**.
- These issues then give rise to the fact that the census questionnaire would have to be modified to add the names of all the castes – not an easy exercise, as many haven't even been listed.
- This would lead to a **further delay** in carrying out the mammoth exercise, which has already been put off by a year due to the coronavirus pandemic.
- Also, a change in the questionnaire would lead to **more money being spent** – not only to print the new copies,

### Caste-based census

YEAR	OUTCOME
1872	Classified population into Brahmins, Kshatriyas, Rajpoots, other castes based on profession, native Christians, Aboriginal tribes, semi-Hindooised tribes
1901	1,642 castes
1931	4,147 castes
1941	Census curtailed due to World War II
2011*	Over 46 lakh caste names, sub-castes, surnames and gotras. Caste numbers withheld citing inaccuracies.

\*socio-economic and caste census

### Commissions dealing with issues related to OBCs

Kaka Kalelkar Commission (1953)	Identified 2,399 backward castes, including 837 most backward castes. Recommended caste-based census in 1961. Report rejected. Government says no objective tests for identifying backward class.
Mandal Commission (1979)	Identified OBCs comprise 52% of India's population, granted 27% reservation in government jobs.
Rohini Commission (2017)	Recommends 27% reservation for OBCs be divided into four sub-categories. Finds 97% of jobs and educational seats went to 25% sub-castes. 10% of the 2,633 OBC communities cornered 25% of these jobs, while 983 communities had zero representation.

### The OBC vote in Lok Sabha elections

	1996	1998	1999	2004	2009	2014	2019
Congress	25.00%	21.00%	25.00%	24.00%	24.00%	15.00%	15.00%
BJP	19.00%	26.00%	23.00%	23.00%	22.00%	34.00%	44.00%
Regional Parties	49.00%	44.00%	41.00%	43.00%	42.00%	43.00%	27.00%

SOURCE: LOKNITI/CSDS

### Self Notes

# DEFENCE & SECURITY

## AGNIPATH SCHEME

**Context:** Amid continuing protests and violence over the new Agnipath scheme for recruitment of soldiers into the armed forces, the Centre has **offered a slew of support measures to accommodate Agniveers in various government departments after their four-year service.**

### WHAT IS AGNIPATH SCHEME?

- The scheme has been designed to **enable a youthful profile of the Armed Forces.**
- It will **provide an opportunity** to the youth who are more in tune with contemporary **technological trends** and plough back skilled, disciplined and motivated manpower into the society.
- It is envisaged that **average age profile of Indian Armed forces would come down by about 4-5 years** by implementation of this scheme.
- Under the scheme, youth aged between **17.5 years to 21 years** will be recruited directly from educational institutions or via recruitment rallies.
- They will be **recruited under a contract.**
- They will be subjected to a **6-month rigorous training regime** and **3.5 years of active service.**

**AGNIPATH: 46K TO BE SIGNED UP WITH SALARY OF ₹30K-₹40K**

**THE SCHEME**

- All recruitment in Army, Navy & IAF (except officers) to be under the pan-country 'Agnipath' scheme
- 46,000 youth** (17.5 to 21 age group) to be recruited this year
- 4-year tenure** will include 6-month basic training (instead of existing 9 to 11 months)
- After 4 years, **25% Agniveers will be selected** for regular cadre for a full term of another 15 years
- 75% Agniveers will be demobilized with 'Seva Nidhi' exit package of **₹11.71 lakh** & skill certificates. **No pension or gratuity**
- Scheme to be progressively be opened for women based on service requirements

**STATED AIMS**

- Slash ballooning salary & pension bills
- Reduce average age from existing 32 to 24-26 in 6-7 years
- Induct tech-savvy youth for future warfare
- Ensure nation-building through disciplined youth with military ethos in civil society

**CRITICISM**

- No pilot project to test the scheme
- Will dilute professionalism, military ethos & fighting spirit
- Takes 7-8 years to become a fully trained combat-ready soldier
- Agniveers will be risk-averse, with the bulk looking for a second career
- Will hit the basic ethos of 'Naam, Namak and Nishaan' (reputation of battalion, fidelity & ensign/colours) for which soldiers fight
- Lead to militarization of society with around 35,000 combat-trained youth being rendered jobless every year

### WHO ARE AGNIVEERS?

- The youth joining the armed forces under Agnipath scheme will be known as **Agniveers.**
- Agniveers* will be given an **attractive customized monthly package** along with **Risk and Hardship allowances** as applicable in the three services.
- On completion of the engagement period of **four years**, *Agniveers* will be paid one time '**SevaNidhi**' package.
  - The 'Seva Nidhi' of approximately Rs **11.71 lakh** would aid the *Agniveer* to pursue his/her future dreams without the financial pressure.
  - The "Seva Nidhi" will be **exempt from Income Tax.**
  - There shall be **no entitlement to gratuity and pensionary benefits.**
  - Agniveers* will be provided **non-contributory Life Insurance Cover** of Rs **48 lakh**
- Post this stint of four years, the *Agniveers* will be **infused into the civil society** where they can contribute immensely towards the nation building process.
- The skills gained by each *Agniveer* will be **recognised** in a **certificate** to form part of his unique resume.
- The individuals, selected for enrolment in the Armed Forces as regular cadre, would be required to **serve for a further engagement period of minimum 15 years** and
- They would be **governed by** the existing terms and conditions of service of
  - Junior Commissioned Officers/Other Ranks in Indian Army and
  - their equivalent in Indian Navy and Indian Air Force and
  - Non-Combatant enrolled in the Indian Air Force, as amended from time-to-time.

### BENEFITS UNDER THE SCHEME

- Aside from a decent income, reportedly around Rs 40,000 per month during the 4th year of service, the administration will also contribute to the fund's corpus, which will offer **retirement benefits** of around Rs 11 lakh upon exit.

- The government will also assist soldiers in obtaining **educational loans**.
- Agniveers will be given **preference** when recruiting for the Central Armed Police Forces.
- In each batch, **25% of Agniveers** will be chosen for the **permanent cadre** in the armed services.
- The remaining **75% of Agniveers** will have **numerous opportunities** to forge their own career path.

### PROTESTS AGAINST THE SCHEME

- Protesters are upset with the Agnipath scheme because the **new age cap will prevent many people from attending recruitment rallies**.
  - Previously, young men between the ages of **16.5 and 21** were chosen for a minimum of 15 years.
  - They would receive a pension upon retirement.
  - The new system entirely replaces the previous one.
  - They can now be recruited between the ages of 17 and 21.
  - Most recruits will be **limited to four years of service**.

### ASTRA MK-1 AIR-TO-AIR MISSILE

**Context:** The **Ministry of Defence** has signed a contract with the Hyderabad-based public-sector **Bharat Dynamics Ltd (BDL)** for supply of the Astra Mark-1 for deployment on fighter jets of the Indian Air Force and Indian Navy.

### ABOUT ASTRA AND ITS VARIANTS

- The missile has been **designed and developed by the Defence Research and Development Organisation (DRDO)** for deployment on fighter jets like Sukhoi-30 MKI and Tejas of the IAF and the Mig-29K of the Navy.
- BVM missiles are capable of engaging **beyond the range of 20 nautical miles or 37 kilometers**.
- AAMs are fired from an airborne asset to **destroy an airborne target**
- The Astra project was **officially launched in the early 2000s** with defined parameters and proposed future variants. Around 2017, the development phase of Mk-1 version was complete.
- While the range for **Astra Mk-1** is around 110 km, the **Mk-2** with a range over 150 km is under development and **Mk-3** version with a longer range is being envisaged.
- One more version of Astra, with a range smaller than Mk-1 is also under development.
- The missile has been designed based on requirements specified by the IAF for BVR as well as close-combat engagement, reducing the dependency on foreign sources.
- AAMs with BVR capability provides **large stand-off ranges** to own fighter aircraft which can neutralize adversary airborne assets without exposing themselves to adversary air defence measures.
  - **Stand-off range** means the missile is launched at a distance sufficient to allow the attacking side to evade defensive fire from the target.
- The missile can **travel at speeds more than four times** that of **sound** and can reach a maximum altitude of 20 km, making it extremely flexible for air combat.
- The missile is **fully integrated on the Sukhoi 30 MKI I** and will be integrated with other fighter aircraft in a phased manner, including the **Light Combat Aircraft (LCA) Tejas**.
- The Indian Navy will integrate the missile on the **MiG-29K** fighter aircraft which are deployed on the Navy's aircraft carriers, thus adding to the lethality of India's Aircraft carriers.

### LCA TEJAS

LCA Tejas is a **single-engine multirole light combat aircraft**. It is the lightest and smallest multirole supersonic fighter aircraft in its class. It is designed to carry a range of air-to-air, air-to-surface, precision-guided, and standoff weaponry.



## ARTILLERY ROCKETS

**Context:** The US announced that it would send its **most advanced artillery rocket launcher and munitions to the Ukrainian military** in the hope of giving it an edge over Russia.

### WHAT IS AN ARTILLERY ROCKET?

- An artillery rocket is a weapon that is typically **propelled by a solid-fuel motor** and can carry a variety of warheads.
- During the **Cold War**, most artillery rockets were **unguided and imprecise** when fired at greater distances.
- In the **1970s**, the United States invested in a new weapon it called MLRS, for **Multiple Launch Rocket System**, designed for use in the event that Russian armored vehicles massed for World War III on the border of Western Europe.
  - The M270 MLRS launcher was an **armored vehicle** that could carry **two “pods”** of munitions.
  - Each pod held either six cluster-weapon rockets that could fly about 20 miles, or a single, larger guided missile, called **ATACMS**, for **Army Tactical Missile System**, that could fly about 100.
- Years later, the Pentagon introduced a more easily transportable version called **HIMARS**, for **High Mobility Artillery Rocket System**, which is based on a wheeled truck that is much lighter.
  - Unlike its predecessor, the M142 HIMARS truck carries **only one pod of munitions**, but it can **move much faster** on and off-road, and can be shipped on a C-130 cargo plane.

### THE DIFFERENCE BETWEEN A ROCKET AND A MISSILE

- The nomenclature can be confusing sometimes, but generally the word **“rocket”** is used in a military context to refer to **relatively inexpensive unguided weapons powered by solid-fuel motors**, while **“missile”** is generally shorthand for **“guided missiles,” more expensive and complicated weapons** that use movable fins to steer themselves to their targets and can fly much farther.

## INS NISHANK AND INS AKSHAY

**Context:** Two naval warships, INS Nishank and INS Akshay, will be decommissioned in the naval dockyard of Mumbai.

### DETAILS:

- They will be decommissioned **after 32 years** of being at the forefront of safeguarding the maritime interests of the nation.
- During decommissioning ceremony, the ship's **decommissioning pennant** is hauled down.
  - The pennant is the **mark of a ship being in commission**.
  - The hauling down of the pennant takes place **during sunset**, signifying the end of the commissioned service of the ship.
  - The decommissioning pennant is **equal to the ship's length** and post decommissioning, it is preserved as part of naval history.





## INS NISHANK

- INS Nishank, the fourth of the **Veer Class Missile Corvette**, has been an integral part of the Killer Squadron, renowned for its heroics in the 1971 India-Pakistan War.
- It holds the distinction of having **operated on both the eastern as well as western seaboard**s.
- The ship is **armed with surface-to-surface missile**.

## INS AKSHAY

- INS Akshay is part of the **23rd Patrol Vessel Squadron**, whose primary role is **anti-submarine warfare** and **coastal patrol**.
- With a formidable armament of **long-range torpedoes** and **anti-submarine rockets**, the 'submarine hunter' was perennially on petrol, keeping enemy submarines at bay.



## Self Notes



# SOCIAL ISSUES

## SC DIRECTIONS ON SEX WORKERS

**Context:** Exercising powers under **Article 142 of the Constitution**, the Supreme Court asked states and Union Territories to **“implement”** and **“to act in strict compliance of”** certain recommendations made by a panel appointed by the court in 2011 on the rehabilitation of sex workers.

### THE CASE

- In **2010**, an appeal was filed in the SC against a July 25, 2007 order of the Calcutta High Court by which the **latter upheld the life imprisonment imposed on a man** named Budhadev Karmaskar, found guilty of murdering a sex worker in Kolkata's red-light area in September 1999.

- On February 14, 2011, the SC **dismissed Karmaskar's appeal** against his conviction and sentencing.

- The court suo-motu converted the case into a PIL to address the problems of sex workers.

- It **issued notices** seeking responses from the central and state governments.

#### ARTICLE 142 OF THE INDIAN CONSTITUTION

It provides **discretionary power to the Supreme Court** as it states that the Supreme Court in the exercise of its jurisdiction may pass **such decree or make such order as is necessary for doing complete justice** in any cause or matter pending before it.

### PANEL FORMED BY SUPREME COURT

- In **2011**, the SC **appointed a panel to study and make suitable suggestions** on prevention of trafficking, rehabilitation of sex workers who wish to leave sex work and, as per a revised term of reference, on conditions conducive for sex workers to **live with dignity in accordance with the provisions of Article 21**.
- In its **final report** submitted on September 14, **2016**, the panel noted that sex workers **found it difficult to acquire proofs of identity such as ration cards or voter cards because they lacked a proof of residence**.
  - It said that district authorities did not recognise the identities of sex workers and their children, and **sex workers did not have access to schemes meant for their rehabilitation**.
  - They also had **no access to credit** offered by states, because the lack of documents prevented them from opening bank accounts.
- The committee recommended that amendments should be made to The Immoral Traffic (Prevention) Act, 1956.

### RECENT ORDER OF SC

- The order listed 10 recommendations of the panel, and directed that **six of them should be implemented**. These include:
  - provision for **immediate medical assistance for any sex worker** who is a victim of sexual assault;
  - direction to states to do a **survey of all Immoral Trafficking (Prevention) Act Protective Homes** so that cases of adult women who are detained against their will can be reviewed and processed for release in a time-bound manner;
  - **sensitizing police and other law enforcement agencies** to the rights of sex workers and to ensure that police treat them with dignity and do not abuse them verbally or physically or coerce them into any sexual activity;
  - ask the **Press Council of India to issue appropriate guidelines** for the **media** to take utmost care not to **reveal the identities** of sex workers;

- direction that measures that sex workers employ for their **health and safety (condoms, etc.)** must neither be construed as offences nor seen as evidence of commission of an offence.

### PENDING RECOMMENDATIONS:

- The Centre said it had “**certain reservations**” on four recommendations of the panel. These are:
  - **no criminal action** against sex worker who is adult and participating with consent;
  - **arresting only the brothel owner** and not sex workers during raid on brothels;
  - **role of sex workers in decision-making processes**, including planning, designing and implementing policy relating to sex work;
  - a recommendation with regard to children of sex workers.

### SUPREME COURT DIRECTIONS:

- **DIRECTIONS TO THE POLICE:**
  - SC ordered that sex workers **should not be arrested or penalized or harassed or victimized** whenever there is a raid on any brothel.
  - This is because **voluntary sex work is not illegal** and **only running the brothel is unlawful**.
  - The court ordered the police to **not discriminate against sex workers** who lodge a criminal complaint, especially if the offence committed against them is of a sexual nature.
  - Sex workers who are victims of sexual assault **should be provided every facility** including immediate medico-legal care.
- **FOR CHILDREN:**
  - A **child of a sex worker** should **not be separated** from the mother merely on the ground that she is in the sex trade.
  - **Basic protection of human decency and dignity** extends to sex workers and their children.
  - If a minor is found living in a brothel or with sex workers, **it should not be presumed that the child was trafficked**.
  - In case the sex worker claims that he/she is her son/daughter, tests can be done to determine if the claim is correct and if so, **the minor should not be forcibly separated**.
- **FOR MEDIA:**
  - Media should take utmost care **not to reveal the identities** of sex workers, during arrest, raid and rescue operations, whether as victims or accused and not to publish or telecast any photos that would result in disclosure of such identities.

### ISSUES OF SEX WORKERS

- **MISUSE OF LAWS:**
  - **Indian law has failed to protect the rights and safety of people in prostitution and sex work.**
  - Not only does it take a moralistic approach, but it is also ambiguous, **leaving sex workers vulnerable to abuses** by police, government officials and petty criminals.
  - The **main law dealing with people in sex work is the Immoral Trafficking (Prevention) Act (ITPA) of 1986** which seeks to prevent trafficking of persons in India and prohibits most outward manifestations of sex work, including brothel operating and public solicitation.
  - It also **allows for eviction of sex workers** from their residences in the name of “public interest.”
  - While the stated purpose of the ITPA is to protect sex workers, **it is more often than not used against them**.

- The act **does not specifically prohibit prostitution**, but law enforcement officials have continuously used it to harass sex workers.
- **The provisions dealing with raid and rescue make no distinction between adults and minors.**
- **STIGMA AND MARGINALIZATION**
  - Stigmatization is experienced as the major factor that **prevents women in sex work from accessing their rights.**
  - Due to this discrimination, women in sex work have been **denied safety, proper healthcare, education** and, most importantly, the right to practice their profession.
- **SAFETY**
  - People in sex work are not only at a higher risk for violence, but they are also **less likely to get protection from the police**—often the very perpetrators of this violence.
- **EDUCATION:**
  - Lack of education is a major inhibitor among both sex workers and their children.
  - Studies have shown **that women in sex work have considerably lower levels of education** than surrounding populations.
- **HEALTH**
  - Stigma and marginalization have a profoundly adverse effect on sex workers' health.
  - **Illiteracy, ignorance and fear of the medical establishment** make it difficult for women to access healthcare.

## VARIOUS RELATED LAWS

Sex work was criminalized by the British, but **sex workers' rights in India continue to remain dismal** as they are not looked at as equal human beings even today.

- Sex workers in India are **looked at through the orthodox patriarchal system**, and considered to be on the fringes of society.
- **Sex workers' rights in India are therefore of the least interest to society in general.**
- **INDIAN PENAL CODE:**
  - **Section 372 and 373 of the Indian Penal Code 1860** deals with prostitution but it is **restricted to child prostitution only.**
  - Though under sections 366A, 366B, 370A of the IPC deals with punishing for offences of procreation of minor girl, importation of girl from foreign for sex and exploitation of a trafficked person respectively.
  - Thus, under IPC **laws related to prostitution is quite limited.**
- **PREVENTION OF PROSTITUTION ACT 1923**
  - In the year 1923, **Prevention of Prostitution Act** was enforced, which instilled dread and fear in the hearts of sex workers.
  - It was so severe that it **criminalized visible expressions of female sexuality** into a new language of criminality.
  - This loss of sex workers rights in India continued even during the post-colonial period.
- **SUPPRESSION OF IMMORAL TRAFFIC ACT (SITA), 1956**
  - In 1956, the **Suppression of Immoral Traffic Act (SITA)** was enforced which suppressed **both trafficking and 'prostitution'** regardless of the age of consent of the person involved.
  - In 1958, **Husna Bai**, a sex worker, sparked a change and filed a petition contesting the laws of SITA **for infringing her freedom to pursue her profession**
  - The **case was dismissed** but its popularity spurred many **legal challenges against SITA's unjustified limitations on the freedom to trade and the sex workers' profession.**
  - Many questioned the excessive powers of SITA as it **allowed local governments to evict any suspected sex workers from their houses.**



- **LAW REFORM COMMISSION REPORT OF 1975 STATED THAT:**
  - **prostitution is a threat to the family as an institution** and as a means of exploitation of females, it is a social evil which leads to social injustice.
- In the **landmark judgment of the Budhadev Karmaskar case**, the Supreme Court of India said unequivocally that **sex workers are human beings with a right to life under Article 21** of the Indian constitution, and that no one has the right to assault or murder them.
  - The **Immoral Traffic (Prevention) Act**, an amendment of SITA, was passed in **1986**.
  - **According to IPTA sex workers can practice their profession but activities including pimping and running a brothel are considered a punishable offence.**

## IS SEX WORK LEGALIZED IN INDIA?

### THERE ARE THREE KINDS OF COUNTRIES IN TERMS OF PROSTITUTION:

- Where prostitution is not tolerated and it is **illegal** to carry out prostitution e.g., Kenya, Morocco, Afghanistan, etc.
- Where prostitution is **legal but it is legal with certain limitations and restrictions** e.g., India, Canada, France, etc.
- Where prostitution is **legal and regularized** with proper laws e.g., New Zealand, Australia, Austria, Netherlands, etc.
- **As per the Indian context, prostitution is not explicitly illegal as it is not specifically expressed prostitution to be punishable by law but few activities related to prostitution such as running brothels, soliciting, trafficking and pimping are all punishable offence in India under the Immoral Traffic (Prevention) Act, 1956.**

## SOLOGAMY OR 'SELF-MARRIAGE'

**Context:** A 24-year-old Vadodara woman recently announced that she **would marry herself**, in what she described as an **"act of self-love"**.

### WHAT IS SOLOGAMY?

- Sologamy is the **act of marrying oneself** in a **public ceremony**, also referred to as self-marriage or autogamy.
- While such a marriage has **no legal sanction** or status, the symbolic ceremony is used by many as an act to emphasize their self-love and independence.

### WHEN DID THE TREND BEGIN?

- It can be traced back to Linda Baker, a dental hygienist from the US, who married herself in **1993**.
- It is widely considered the first publicized act of self-marriage
- A **Sologamy divorce** was also reported last year when a Brazilian model, Cris Galera (33), announced she was ending her solo-marriage after just 90 days as she had fallen in love with someone else.

### WHAT KIND OF CEREMONIES DOES SELF-MARRIAGE INVOLVE?

- There are **no rules or social norms**.
- They can be similar to traditional two-people weddings, or not.

## e-SANJEEVANI

**Context:** The National Health Authority (NHA) announces the **successful integration of e-Sanjeevani with its flagship scheme** – Ayushman Bharat Digital Mission (ABDM).

### ABOUT THE INTEGRATION

- This integration **allows the existing users of eSanjeevani**, the telemedicine service of Ministry of Health and Family Welfare (MoHFW) to easily create their Ayushman Bharat Health Account (ABHA) and use it to link and manage their existing health records like prescriptions, lab reports, etc.
- The users would also be able to share their health records with doctors on eSanjeevani which will help in better clinical decision making and ensuring the continuum of care.

- ABDM **aims to build digital highways to bridge the gaps** in existing digital health solutions and stakeholders in India.
- The integration of eSanjeevani with ABDM is one such example where the 22 crore ABHA holders can link and store their health records created via eSanjeevani directly in the health lockers of their choice.
- The users can also share their previously linked health records with the doctors on eSanjeevani making the entire consultation process paper-less.

### ABOUT ESANJEEVANI

- eSanjeevani service is available in **two variants**.
  - The first one is eSanjeevani Ayushman Bharat-Health and Wellness Centre (AB-HWC) – the **Doctor-to-Doctor** telemedicine service through which the beneficiaries visiting a HWC can virtually connect to doctors/ specialists in the Hub that could be at tertiary healthcare facility/hospital/medical college.
  - This enables the government to **provide general and specialised health services** in rural areas and isolated communities.
  - The **second variant**, eSanjeevani **OPD** is **serving patients** across the country, connecting them directly to doctors from the comforts of their homes.
- **Both versions** – eSanjeevani AB-HWC and eSanjeevani OPD **have been integrated** with ABDM platform.

### NATIONAL ACHIEVEMENT SURVEY (NAS)

**Context:** A nationwide survey carried out by the Union Ministry of Education has found that **between 2017 and 2021, the literacy and numeracy skills of school students in India worsened** considerably across subjects and grades.

### ABOUT NATIONAL ACHIEVEMENT SURVEY

- The NAS is a periodic exercise carried out broadly in alternate years to **monitor the health of the country's school education system**.
- It has been designed by **the Ministry of Education along with the National Council for Educational Research and Training (NCERT)** to provide a snapshot of learning outcomes in key subjects.
- The **first edition** of NAS was carried out in **2001**.
- In the beginning, the survey was supposed to be an independent project of the NCERT, but it was soon **brought under the ambit of the Sarva Shiksha Abhiyan**, the government's flagship programme to achieve universalisation of elementary education (UEE), which has now been subsumed into the overarching Samagra Shiksha Abhiyan.

### CURRENT STRUCTURE OF THE SURVEY

- In 2017-18, the NAS was **redesigned**.
- For the **first time**, students of all four grades were covered on the same day.
- Instead of states, **districts were made units of reporting**, leading to a much bigger sample size.

### WHAT EXACTLY DOES THE NAS ASSESS?

- Until 2015-16, the survey assessed the competency of students based on the **core curriculum** followed by states and UTs.
- In 2017-18, the focus moved to **mapping the progress of learning outcomes** as listed under the Right to Education Rules as amended in 2017.
- **Schools covered:**
  - The survey covers schools run by the central and state/UT governments, government-aided schools, and private unaided schools.
- **Subjects:**
  - Language, mathematics and environmental science are assessed in Classes 3 and 5;
  - language, maths, science and social science in Class 8; and

➤ maths, social science, science and English are assessed for students in Class 10.

## NAS 2021

- Compared with 2017 (in 2018 only Class 10 students were assessed), **performance has taken a hit across grades.**
- A comparative analysis shows that the national average scores of students across subjects have **dropped by up to 47 marks.**
- Except for Punjab and Rajasthan, the **performance of nearly all states have declined compared to 2017 levels.**
- There were **no marked differences** between the scores of boys and girls.
- There were **some variations among communities**, though.



## Self Notes



# MISCELLANEOUS

## AMRIT SAROVAR MISSION

**Context:** The Centre has asked the **Ministry of Railways and the National Highways Authority of India (NHAI)** to use the soil or silt excavated from ponds and tanks in all districts under the Amrit Sarovar mission for their infrastructure projects.

### ABOUT THE MISSION

- It was launched on **24th April 2022**.
  - The Mission is **aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav**.
- **6 MINISTRIES/DEPARTMENT ARE INVOLVED–**
  - Dept of Rural Development.
  - Department of land resources.
  - Department of Drinking Water and Sanitation.
  - Department of Water resources.
  - Ministry of Panchayati Raj.
  - Ministry of Forest, Environment and Climate changes.
- **Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N)** has been engaged as **technical partner** for the Mission.
- The Mission is to be completed by **15th August 2023**.
- **Around 50,000 such Amrit Sarovar may be constructed in the country and each of these Amrit Sarovar will have approx. area of 1 acre with a water holding capacity of 10,000 cubic meter.**
- People's participation in the Mission is the focal point.
- **Local freedom fighters, their family members, Martyr's family members, Padma Awardee and citizens of the local area wherein an Amrit Sarovar is to be constructed, will be engaged at all stages.**
- On every 15th August, National Flag hoisting will be organized on every Amrit Sarovar site.

### NATIONAL HIGHWAYS AUTHORITY OF INDIA

It was set up under NHAI Act, 1988. It is under the administrative control of the Ministry of Road Transport and Highways.

It has been entrusted with the **National Highways Development Project**, along with other minor projects for development, maintenance and management.

National Highways Development Project (NHDP) is a project to upgrade, rehabilitate and widen major highways in India to a higher standard. The project was started in 1998.

### Azadi Ka Amrit Mahotsav

Azadi Ka Amrit Mahotsav is an initiative of the Government of India to celebrate and commemorate 75 years of independence and the glorious history of its people, culture and achievements.

This Mahotsav is dedicated to the people of India who have not only been instrumental in bringing India thus far in its evolutionary journey but also **hold within them the power and potential to enable Prime Minister Narendra Modi's vision of activating India 2.0**, fuelled by the spirit of Aatmanirbhar Bharat.

The official journey of Azadi ka Amrit Mahotsav commenced on 12th March 2021 which started a **75-week countdown to our 75th anniversary of independence and will end post a year on 15th August 2023**.

## PRAGATI MAIDAN INTEGRATED TRANSIT CORRIDOR REDEVELOPMENT PROJECT

**Context:** New corridor project – The Pragati Maidan Integrated Transit Corridor Redevelopment Project has been opened to public.

### WHAT IS THE PRAGATI MAIDAN INTEGRATED TRANSIT CORRIDOR REDEVELOPMENT PROJECT?

- Part of the ITPO-Pragati Maidan Redevelopment Project, the corridor comprises a **1.3-km long tunnel and six underpasses**.
- Work **started in 2017**.



- The **key aim** of this project is to **de-congest traffic around the Pragati Maidan Trade Centre** and remove bottlenecks on Bhairon Marg, Ring Road, ITO-W point and Mathura Road and make it signal free
- There are **six underpasses** — four on Mathura Road, one on Bhairon Marg and one on the intersection of Ring Road and Bhairon Marg.
- Mathura road is signal-free now and the four underpasses are at Sher Shah Suri Road, Sunder Nagar, Pragati Maidan and Supreme Court for u-turns.
- Work on the **sixth underpass** at Bhairon Marg intersection, a key stretch, is **yet to be completed**.

## NATIONAL AIR SPORT POLICY (NASP), 2022

**Context:** Recently, the Union Ministry of Civil Aviation released a new policy on air sports in India.

### Key details of NASP, 2022

- **Objectives:** To organise a previously **unregulated sector** and could potentially generate annual revenue of Rs 8,000 to Rs 10,000 crore in the near future.
  - To create a structure that would help promote the country's air sports sector, by way of making it **safe, affordable, accessible, enjoyable and sustainable**. It includes safety mandates, penalties for violating those norms.
  - To make India one of the **top air sports nations by 2030**.

It lays down a **four-tier governance structure** with the **ASFI at the top**, followed by national associations for individual sports and their regional and district level units.

- **ASFI:** It is an **autonomous body** under the **Ministry of Civil Aviation (MoCA)**.
  - It will represent India at global platforms related to air sports such as the World Air Sports Federation (FAI).
  - It will also conduct competitions across the country through different national air sports associations.
  - The ASFI will provide governance over different aspects such as **regulation, certification, competitions, awards and penalties**.
  - It will be chaired by the Secretary, Ministry of Civil Aviation.



## LIFE MOVEMENT

**Context:** The Prime Minister of India launched a **global initiative 'Lifestyle for the Environment (LiFE) Movement'** recently.

### DETAILS:

- The launch will initiate 'LiFE Global Call for Papers' inviting ideas and suggestions from academics, universities & research institutions etc. to influence and persuade individuals, communities and organisations across the world **to adopt an environment conscious lifestyle**.
- The idea of LiFE was introduced by the Prime Minister during the **26th United Nations Climate Change Conference of the Parties (COP26)** in Glasgow last year.
- The idea promotes an **environment conscious lifestyle** that focuses on 'mindful and deliberate utilisation' instead of 'mindless and destructive consumption'.

#### Fédération Aéronautique Internationale (FAI)

- **HQs:** Lausanne, Switzerland
- Globally, it is the **governing body for air sports**.
- It sets standards, organises events and has over 100 members.

## Key underpass incomplete

**1.4km** six-lane tunnel under Pragati Maidan and 5 underpasses to be launched on Sunday

**₹920 crore** project was started in 2017 and expected to be over by March 2019. At least six deadlines have been missed since then

**INCOMPLETE:** Underpass number 5 on Bhairon Marg-Ring Road T-intersection **1-1.5 MONTHS:** Estimated time for its completion of this underpass

### WHY IT IS IMPORTANT

The underpass, once complete, will give commuters a signal-free trip between Sarai Kale Khan and Kashmere Gate ISBT by removing red lights on the intersection

### WHY HAS THIS UNDERPASS BEEN DELAYED? WHAT THE PWD SAYS

- PWD officials said the underpass was the most challenging aspect of the revamp, apart from the main tunnel, from a construction standpoint
- It has three active railway lines above the junction, and construction work can only be carried out during a four-hour window every night
- The railway tracks are readjusted every day, reducing the construction window to around 1-1.5 hours
- The site is close to the Yamuna river and gets flooded during the rains

### BHAIRON MARG UNDERPASS



### LOOPS FOR TRAFFIC ON BHAIRON MARG

- 1 Noida, Ghaziabad-bound traffic from Bhairon Marg will exit on Ring Road via an underground loop
- 2 Traffic coming from Noida, Sarai Kale Khan to use the slip road on Ring Road to get on to Bhairon Marg
- 3 Mathura Road-bound traffic from Kashmere Gate to use an underground loop on Ring Road near Nizamuddin Rail Bridge
- 4 Vehicles towards Rajghat and Kashmere Gate from Bhairon Marg to take a slip road to get onto Ring Road

## COP26 GOALS

1. **Secure global net-zero by mid-century and keep 1.5 degrees within reach** : The UNFCCC recommends that countries 'accelerate the phase-out of coal, **curtail deforestation**, speed up the switch to electric vehicles and encourage investment in renewables' to meet this goal.
2. **Adapt to protect communities and natural habitats**: Countries will work together to '**protect and restore ecosystems** and build defences, warning systems and resilient infrastructure and agriculture to avoid loss of homes, livelihoods and even lives.'
3. **Mobilize finance**: UNFCCC said that developed countries must make good on their promise to **mobilize at least \$100bn** in climate finance per year by 2020.
4. **Work together to deliver**: Another important task at the COP26 is **to frame a list of detailed rules that will help fulfil the Paris Agreement**.



## Self Notes



# GOVERNMENT SCHEMES

## MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME

**Context:** Recently, the Union government made **capturing of attendance through its app, National Mobile Monitoring System, compulsory at worksites where 20 or more workers are employed** under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

### National Mobile Monitoring Software App

- National Mobile Monitoring Software (NMMS) App was launched by the **Ministry of Rural Development** on May, 21 2021.
  - This app is **aimed at bringing more transparency and ensure proper monitoring** of the schemes.
- The NMMS App permits **taking real time attendance of workers** at Mahatma Gandhi NREGA worksites along with geo-tagged photograph.
  - The app helps in **increasing citizen oversight** of the programme.
- The National Mobile Monitoring App is applicable for the Mahatma Gandhi NREGA workers for **all the States/ Union Territories**.

### ISSUES WITH IMPLEMENTATION OF THE APP:

- **Women employees, especially the supervisors or “work mates”,** have faced the biggest setback from the move.
  - In a majority of cases, the **employees’ families are averse to giving phones** to women, especially smartphones. Hence, **many women have dropped out**.
  - Mandatory capturing of attendance through the app has **led to their exclusion** from the process.
- The **speed** of the application and the **strength** of the server create troubles.
  - If the **workers are not able to upload the attendance** that makes them anxious because the wages are directly connected to attendance.
- The supervisors of the worksites are expected to have a **smartphone with Internet connection**.
  - The mates are **not given added incentives** to pay for the smartphones or Internet connections.
  - There is **minimal technical support**.

### ABOUT MGNREGA

- The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), also known as Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) was enacted in **2005**.
- MGNREGA is the **largest social security scheme in the world** — guaranteeing 100 days of unskilled manual work to all rural households in India.
  - The MGNREG Act actually gives rural households **the right to work** — making it **obligatory for the State** to give them work on demand.
  - Household could actually **sue them** for not doing so — at least on paper.
- The work is usually on projects to **build durable assets like roads, canals, ponds and wells**.
- The Act stipulates a **minimum wage-material ratio** of 60:40.
  - The MGNREGA provides a **legal guarantee for one hundred days of employment in every financial year** to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage.

#### MINIMUM WAGE-MATERIAL RATIO

The 2005 Act mandates that while **60% of the total expenditure** under MNREGA has to be on wage, **40% spending** has to be on the creation of material assets.

If wage material ratio is 60:40 and total budget is 1000 rupees then 600 rupees will be kept aside for the payment of wages and 400 rupees will be kept aside for purchasing of materials (for example cement, concrete, tools etc.).

- The **Ministry of Rural Development** is monitoring the entire implementation of this scheme in association with state governments.
- This act was introduced with an aim of **improving the purchasing power of the rural people**, primarily semi or un-skilled work to people living below poverty line in rural India.
  - It attempts to **bridge the gap between the rich and poor** in the country.
  - Roughly **one-third of the stipulated work force** must be women.

### WHAT IS THE PROCESS:

- Adult members of rural households **submit their name, age and address** with photo to the Gram Panchayat.

- The **Gram Panchayat registers households** after making enquiry and **issues a job card**.
- The job card contains the **details of adult member enrolled** and his /her photo.

MAHATMA GANDHI NREGA	MAHATMA GANDHI NREGS
The Mahatma Gandhi National Rural Employment Guarantee Act (Mahatma Gandhi NREGA) is the <b>foundation</b> for the Mahatma Gandhi National Rural Employment Guarantee Scheme (Mahatma Gandhi NREGS) and provides guaranteed employment.	The Mahatma Gandhi National Rural Employment Guarantee Scheme (Mahatma Gandhi NREGS), created as directed in Mahatma Gandhi NREGA and <b>the means to implement the Act</b> so that the guarantee comes into effect.
The <b>Central Government specified the features and conditions</b> for guaranteed employment in Mahatma Gandhi NREGA 2005.	The <b>State Governments have to incorporate all features</b> of Mahatma Gandhi NREGA in the State Mahatma Gandhi NREGS as mentioned in <b>Schedule -I</b> and condition of employment as mentioned in <b>Schedule-II</b> of Mahatma Gandhi NREGA.
The <b>Central Government</b> has powers to make rules and to <b>amend</b> Mahatma Gandhi NREGA.	The <b>State Governments</b> have powers to make rules and <b>amend</b> the concerned <b>State scheme</b> .
Mahatma Gandhi NREGA has been <b>notified through the Gazette of India</b> Extraordinary notification and is National legislation.	Mahatma Gandhi NREGS of a State has been notified through the <b>Official Gazette of concerned State</b> .

- **Registered person can submit an application** for work in writing (for at least fourteen days of continuous work) either to **Panchayat or to Programme Officer**.
  - The **Panchayat/Programme officer will accept** the valid application and issue dated receipt of application, **letter providing work** will be sent to the applicant and also **displayed at Panchayat office**.
  - The employment will be provided **within a radius of 5 km**: if it is above 5 km **extra wage will be paid**.

### ACTIVITIES COVERED UNDER MGNREGA

- Majority of these are related to **agricultural and allied activities**, besides the works that will facilitate rural sanitation projects in a major way.
  - Rural sanitation projects, as **for the first-time** toilet building, soak pits and solid and liquid waste management have been included under MGNREGA.
- **The works have been divided into following 10 broad categories:**
  - Watershed
  - Irrigation and Flood management works
  - Agricultural and Livestock related works
  - Fisheries
  - works in coastal areas
  - the Rural Drinking water and Sanitation related works

**Note: Construction of AWC (Anganwadi Centre) building has been included as an approved activity under the MGNREG Act.**

### SAGARMALA YOUNG PROFESSIONAL SCHEME

**Context: Ministry of Ports, Shipping and Waterways** has formulated Sagarmala young professional scheme to engage talented, forward-thinking and dynamic young professionals in various divisions of the Ministry.



**DETAILS:**

- This scheme **focuses on active on-the-ground learning** for young professionals.
- The professionals will have the **opportunity to learn about the functioning of the government** as well as developmental policy concerns.
- Professionals will be **required to deliver high-quality inputs** in areas such as infrastructure, data analysis, project management, start-up, innovation, skill development, digital transformation and the environment, among others, in order to meet Ministry's needs.
- Professionals will be required to have **qualification in B. E/ B. Tech, B. Planning and/or MBA or equivalent degree in relevant subject/ field and minimum three year of relevant work experience.**
  - Professionals in Accountancy, Finance, Legal, Statistics, Economics/Commerce, Data Analytics will also be engaged based on requirement of the Ministry.
- The initial period of engagement shall be **2 years** which can be extended to additional 2 years on the basis of performance.

**JAL JEEVAN MISSION**

**Context:** A fresh impetus has been given to the Jal Jeevan Mission (JJM) in Rajasthan with **the appointment of new water and sanitation committees at various levels**, which will recommend the implementation of works under the mission.

**ABOUT JJM**

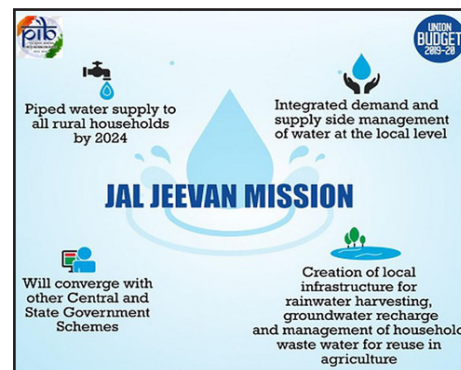
- Jal Jeevan Mission, is envisioned to **provide safe and adequate drinking water** through individual household tap connections **by 2024** to all households in **rural India**.
- The Jal Jeevan Mission will be **based on a community approach** to water and will include extensive Information, Education and communication as a key component of the mission.
  - **The Mission was launched on August 15, 2019.**

**OBJECTIVES**

- To provide **Functional Household Tap Connection (FHTC)** to every rural household.
- To prioritize provision of **FHTCs in quality affected areas**, villages in drought prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.
- To **monitor** functionality of tap connections.
- To promote and ensure **voluntary ownership** among local community by way of contribution in cash, kind and/ or labour and voluntary labour (shramdaan)
- To assist in **ensuring** sustainability of water supply system, i.e., water source, water supply infrastructure, and funds
- To **empower and develop human resource** in the sector such that the demands of construction, plumbing, electrical, water quality management, water treatment, catchment protection, O&M, etc. are taken care of in short and long term
- To **bring awareness** on various aspects and significance of safe drinking water and involvement of stakeholders in manner that make water everyone's business

## COMPONENTS UNDER JJM

- Development of **in-village piped water supply** infrastructure to provide tap water connection to every rural household
- Development of reliable drinking water sources and/or **augmentation of existing sources** to provide long-term sustainability of water supply system
- Wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household
- **Technological interventions** for removal of contaminants where water quality is an issue
- **Retrofitting** of completed and ongoing schemes to provide FHTCs at minimum service level of 55 lpcd;
- **Greywater management**
- **Support activities**, i.e., IEC, HRD, training, development of utilities, water quality laboratories, water quality testing & surveillance, R&D, knowledge centre, capacity building of communities, etc.



## RASHTRIYA JAL JEEVAN KOSH

Rashtriya Jal Jeevan Kosh (RJJK) **aims** to fulfil the objectives listed below:

- To enable individuals/ organizations to donate/ contribute in making provision of clean drinking water in **village of their choice**.
- To **join the on-going efforts under Jal Jeevan Mission** to provide tap water in rural homes, schools, anganwadi centres, tribal residential schools, health-cum-wellness centres, etc.
- To **promote** R&D, innovation, use of technology in ensuring tap water in rural households.
- To **build the capacity of the local village community** to plan, implement, manage, operate and maintain their water supply schemes.
- To **promote water conservation efforts**, augmentation/ strengthening of drinking water sources, grey water treatment & re-use, etc. for water security

## SCHEME FOR RESIDENTIAL EDUCATION FOR STUDENTS IN HIGH SCHOOLS IN TARGETED AREAS (SHRESTHA)

**Context:** Ministry of Social Justice and Empowerment launched Scheme for Residential Education for Students in High schools in Targeted Areas (SHRESTHA)

### FEATURES OF THE SCHEME:

- The scheme for Residential Education for Students in High Schools in Targeted Areas (SHRESTHA) has been conceived to provide access to high quality residential education to the meritorious poor students from Scheduled Caste communities, whose parental **annual income is up to Rs. 2.5 Lakh per annum**, at free of cost from **class 9th to class 12th**
- The students are selected through a transparent mechanism of a **National Entrance Test** for SHRESTHA (NETS), conducted by the National Testing Agency (NTA).
- Selected students are **admitted in the Best Private Residential Schools**, affiliated by CBSE, in classes 9th and 11th for completion of education till 12th standard.
- Thereafter, the students may be **connected to Post Metric Scholarship Scheme** or **Top - Class Education Scheme** of the Ministry to continue their further studies with adequate financial aid from the Government of India.

- **Entire cost** of school fee and hostel fee including food charges shall be **borne by the Government of India**.
- The Students under the Scheme **may select any school** across the country for their academics.
- Provisions have also been incorporated in the scheme for a **Bridge Course** for a period of 3 months, for the students, joining the CBSE based schools from State Schools, Rural Areas or from Regional language Schools, to adapt in the new environment of the selected schools.
  - The Ministry shall pay **additional cost of 10 %** of the annual charge for the Bridge Course.
- The scholarships will be released in **one installment** directly to the schools in the first quarter itself of each financial year.
- The scheme will be considered to be in **DBT mode**.



### Self Notes



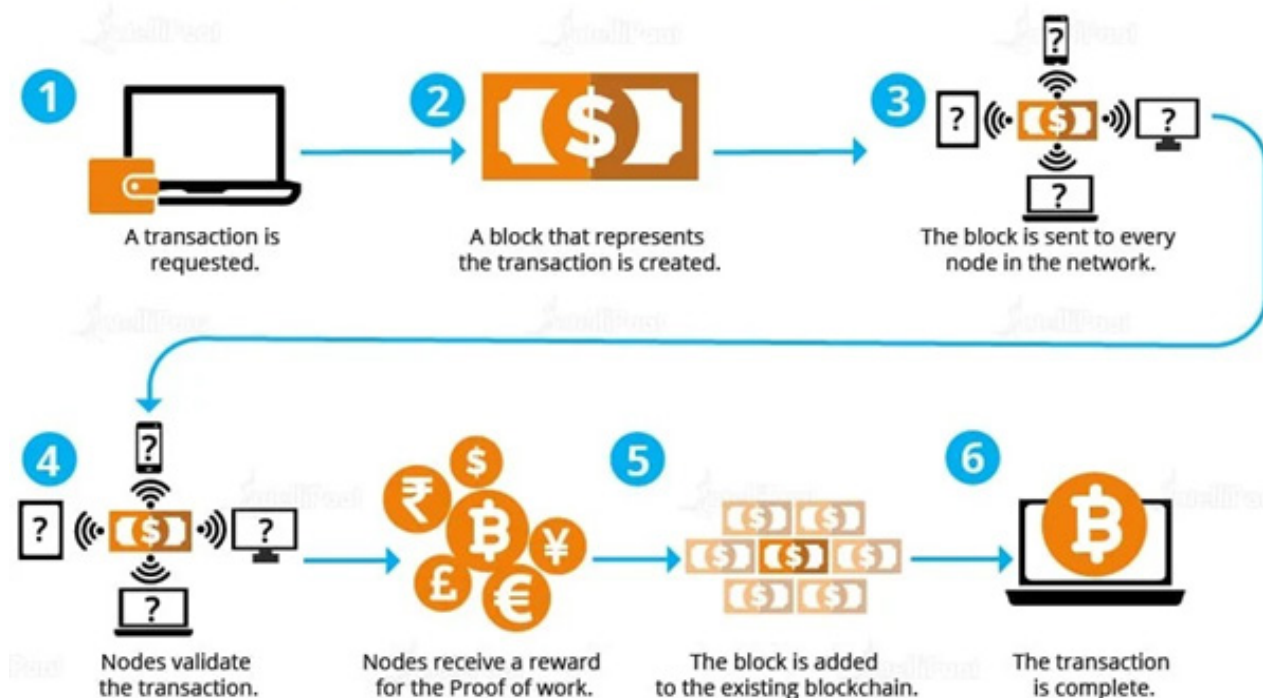
# ARTICLE FROM YOJANA

## Decoding Modern Tech Terms

### Blockchain

- It is a system whereby information about transactions is stored on countless computers spread across the globe.
- It is considered as an alternative to the conventional banking system.
  - Under this, transactions of a similar kind (like banking) are recorded on computers worldwide, and this system has nothing to do with the banks.
- **Benefit:** The information stored under the Blockchain is even more secure than banking system because countless copies of that information are kept on computers around the world. No one can hack so many computers.
- The cryptocurrency has its transactions done through this blockchain system.

## How Do Blockchains Work?



### Non-Fungible Tokens (NFTs)

- In NFTs, the information is stored in the blockchain system itself, especially in a system called ethereum.
- This NFT 'platform' or 'technology' can store and authenticate information about unique things such as an expensive original painting, something of historical importance, or memorabilia (such as a special attire worn by a celebrity).
  - Under a NFT system, a kind of digital certificate is issued that such an original thing, unique in the world, is owned by you. This digital certificate cannot be tampered with.
- The digital certificate is not in the form of writing but in the form of a digital image, video, etc.
- NFTs can be associated with physical assets and virtual or digital assets.

Examples of Fungible & non-fungible

FUNGIBLE	NON-FUNGIBLE
Dollar	Digital Art
Bitcoin	Physical Art
Gold	Property



## Metaverse

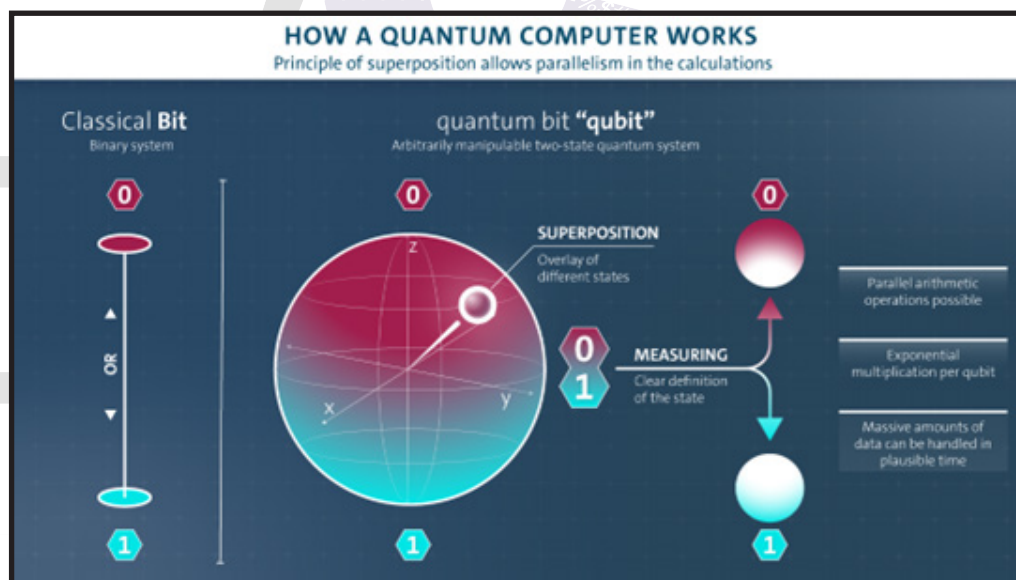
- Metaverse means a parallel universe present in the digital world that contains most of the things that exist in our physical world.
  - Accessing this virtual world requires the Internet and digital devices.
  - Illustration of its working: Take an example of a video game in which you present yourself as a digital person (digital avatar), competing with other players, making friends, and engaging in other activities. You participate in the game from your laptop while others take part through gaming devices or mobile that information are kept on phones. If the same video game is expanded widely and countless people could access it digitally, it would be the metaverse.
- However, it will not merely be a gaming activity.

## Quantum Computing

- Quantum computing is a rapidly-emerging technology that harnesses the laws of quantum mechanics to solve problems too complex for classical computers.
- A quantum computer can perform calculations millions of times faster than a normal computer.
- The world's first, very small quantum computer was built in 1997.
- Today Rigetti's quantum computer is considered the most powerful, with a capacity of 128 qubits.
- Except for small systems, the number of quantum computers with good capacity will be less than two dozen in the world.

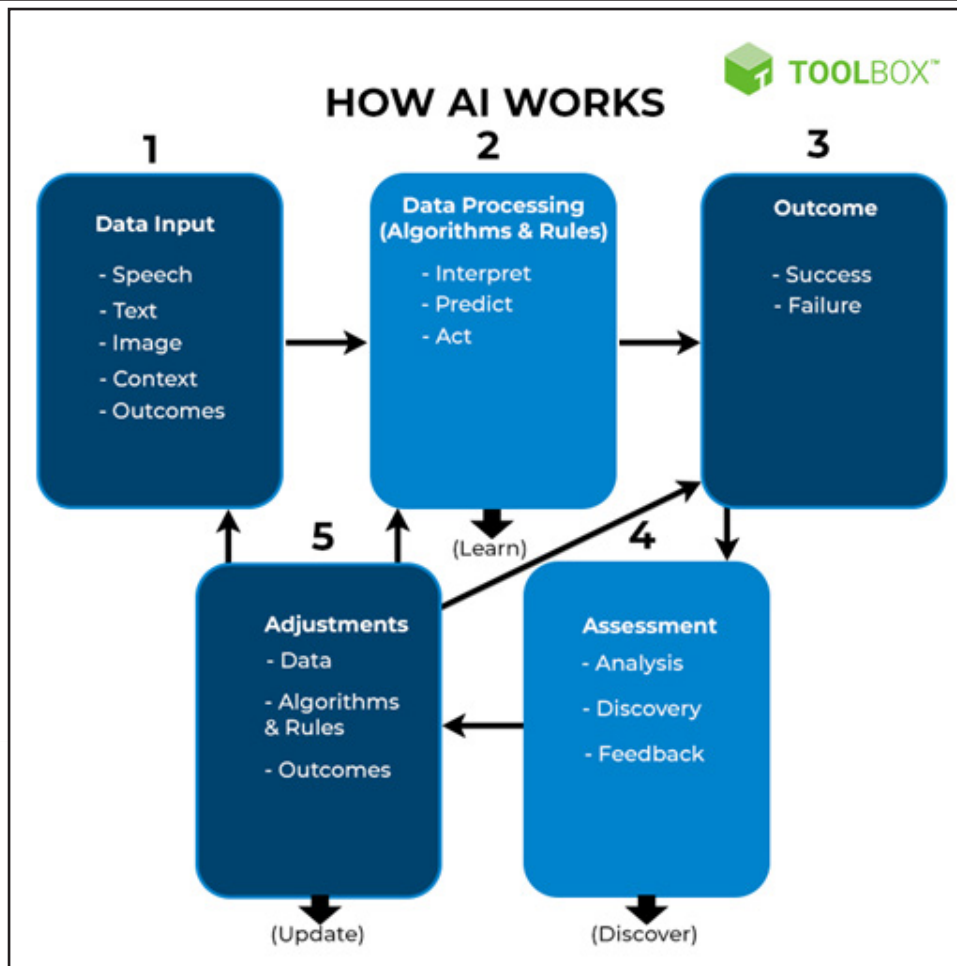


Traditional Computer	Quantum Computer
Based on a fundamental unit of binary digits (0 and 1) called 'bit'	Based on Qubit (Quantum Bit)
Bit value can be 0 or 1 only	Qubit value can be 0,1, or both
Transistors are used	Atoms, electrons, ions, photons, etc. are used



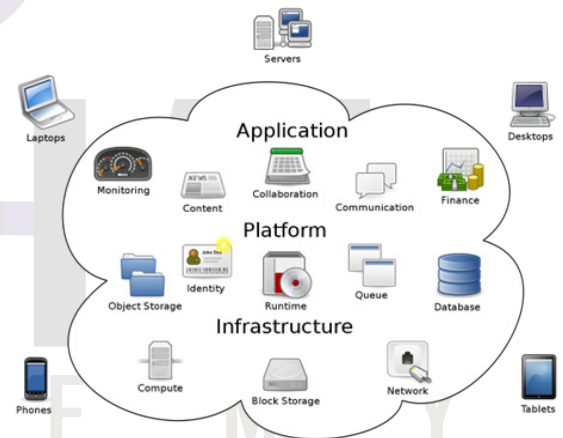
## Artificial Intelligence (AI)

- AI refers to the ability of machines (or technology) to learn, analyse, think, understand, solve problems, make decisions, etc., similar to a human being.
- It can bring about unprecedented changes in the world and has the potential to change the way we live, work, read and write, travel, do business, run industry, and get medical treatment. It is believed that AI will transform the world in a big way, similar to what electricity has done.
- Apart from advanced research and development, many factors are creating this capability, such as the availability of large amounts of data, the ability to analyse it, the enormous increase in the capacity of computers, and the development of cloud computing, internet connectivity, etc.



### Cloud computing

- The word 'Cloud' refers to the infrastructure on the internet where various types of technical resources are present, such as:
  - Hardware
  - Software
  - Services
- It implies using the resources available on the internet on your computers or devices.
- Infrastructure as a Service (IaaS): When infrastructure or infrastructural facilities are used remotely through the internet.
- Software as a Service (SaaS): It is the service you can use through the cloud for some time without buying softwares like Photoshop, Microsoft Word, or AutoCAD.
- Platform as a Service (PaaS): PaaS means technology platforms using which you can develop softwares and manage them, providing them to others for use.



### Self Notes

# MODERN HISTORY (REVOLTS & REBELLIONS)

## SANNYASI REBELLION

Historians have varied views on the significance of this rebellion in Indian history.

- **View-1:** Some historians refer to it as an early war for India's independence from foreign rule, since the **right to collect tax** had been given to the British East India Company after the Battle of Buxar in 1764.
- **View-2:** Others categorize it as acts of violent banditry following the **depopulation of the province in the Bengal famine of 1770**.

### EVENTS WHICH LED TO THIS REVOLT:

- A large body of Hindu sannyasis who travelled from North India to different parts of Bengal to visit shrines. En route to the shrines, it was customary for many of these ascetics to exact a religious tax from the headmen and zamindars or regional landlords.
- Since the East India Company had received the right to collect tax, many of the tax demands increased and the local landlords and headmen were unable to pay both the ascetics and the English.
- Crop failures, and famine, which killed ten million people compounded the problems since much of the arable land lay fallow.
- In 1771, 150 saints were put to death, apparently for no reason. This was one of the reasons that caused distress leading to violence.



### BRITISH'S ATTITUDE TOWARDS THESE SANNYASI:

- To the British, these ascetics were **looters and must be stopped from collecting money** that belonged to the company and possibly from even entering the province. It was felt that a large body of people on the move was a possible threat.
- The British imposed taxes on zamindars, it became hard for them to give alms to the sannyasis. Sannyasis & Fakirs were burdened with restrictions as the British government thought they were looters & thugs. And thus, rebellion began.
- Most of the clashes were recorded in the years following the famine but they continued, albeit with a lesser frequency, up until 1802.
- What effect the Sannyasi Rebellion had on rebellions that followed is debatable. Perhaps, the best reminder of the Rebellion is in literature, in the **Bengali novel Anandamath**, written by India's first modern novelist Bankim Chandra Chatterjee.

## CHUAR REBELLION

- The Chuar rebellion was a series of peasant rebellions between 1771 and 1809 by the **inhabitants of the countryside surrounding the West Bengali settlements** of Midnapore, Bankura and Manbhum against the rule of the EIC.
- The rebels rose in revolt due to the exploitative land revenue policies of the EIC, which threatened their economic livelihoods.
- Prior to the arrival of Europeans on the Indian subcontinent, the Bengali countryside (consisting primarily of hills and rainforests) were not directly controlled by the Mughal authorities. Local rulers, who paid tribute to the Mughals, held control over the area.
- In turn, the local rulers granted to inhabitants of the countryside tax-free lands in exchange for the military protection they provided to the former. The recipients of these land grants were called Paika.
- After the East India Company annexed Bengal and incorporated the region into the Bengal Presidency, the Company administration stipulated that the local rulers would now collect taxes from the Paika, which would go into the Company coffers. In response, the Paika rose in revolt, earning the derogatory nickname "Chuars".

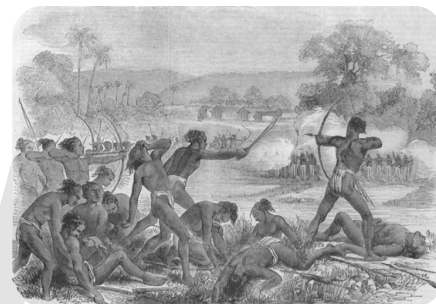
## KOL UPRISING

- The Kol uprising, also known in British records as the Kol mutiny was a revolt of the **Adivasi Kol people of Chhota Nagpur** during **1829-1839** as a reaction to economic exploitation brought on by the systems of land tenure and administration that had been introduced by the East India Company.
- The Kol people were joined by other communities including the **Mundas, Oraons, Hos** leading to some authors also calling it the Munda uprising.
- The uprising was a **reaction to the appointment of a Political Agent** to the Government in South Bihar and recently ceded districts nearby around 1819.
- This resulted in many people moving into these areas which were the lands of numerous adivasi tribes. These tribes had no rulers and their lands were divided according to families that were bound by "parhas" or conferences.
- With the application of new land laws, the Kols were **exploited by outsiders moving into the area and taking up agriculture and commercial activities** that were alien to tribal culture.
- Many of the lands of the locals were taken away as securities for un-retained loans. The locals whose languages were unknown to the settlers were exploited and punished in a number of incidents.
- Another irritation was the **taxation on the movement of products** such as salt that were formerly freely moved. Corrupt official practices and lawlessness followed.
- The masses of common people, of whom the Kols were the largest in number, burnt the houses of the newly settled people in revenge.



## SANTHAL REBELLION

- It was a revolt against the oppression of the colonial rule propagated through a distorted revenue system, enforced by the local zamindars, the police and the courts of the legal system set up by the British East India Company.
- It started on June 30, 1855 and on November 10, 1855, **martial law was proclaimed by the East India Company** which lasted until January 3, 1856 when martial law was suspended and the rebellion was eventually suppressed by the Presidency armies.
- The rebellion of the Santhals began as a reaction to end the revenue system of the British East India Company (BEIC), usury practices, and the zamindari system in India; in the tribal belt of the Bengal Presidency.
- The Santhals lived in and depended on forests. In 1832, the BEIC **demarcated the Damin-i-koh region** in present day Jharkhand and invited Santhals to settle in the region.
- Due to promises of land and economic amenities a large number of Santhals came to settle from Cuttack, Dhalbhum, Manbhum, Hazaribagh, Midnapore etc.
- Soon, mahajans and zamindars, as tax-collecting intermediaries employed by the BEIC, dominated the economy.
- Many Santals became victims of corrupt money lending practices. They were lent money at exorbitant rates. When they were unable to repay the loan, their lands were forcibly taken and they were forced into bonded labour. This sparked the Santal rebellion by **Sidhu and Kanhu Murmu**, two brothers who led the Santals during the rebellion.





## POLYGAR WARS

- The Polygar Wars were wars fought between Polygars of the former Tirunelveli Kingdom in Tamil Nadu, India and the British forces between March 1799 to July 1805.
- BEGINNING OF THE CONFLICT:** The problem started in 1781, when the Nawab of Arcot gave the management and control of Tinneveli and the Carnatic Provinces to the East India Company.
- The new arrangement caused resentment among the poligars who had considered themselves as **independent sovereign authorities within their respective territories**.

### 1<sup>st</sup> Phase of the War:

- The first revolt of the poligars against the Company was basically over the **pending taxes**.
- Kattabomman Nayakan led the rebellion between 1795 and 1799.
- After a fierce confrontation in which the Company forces were defeated by Veerapandiya Kattabomman, a **price was put on the latter's head**.
- This led to greater rebellion by the poligars. With reinforcements the Company forces were finally able to defeat Kattabomman.
- Kattabomman **fled into the Pudukottai forests**. Once again, a betrayal—this time by Ettappan, the Raja of Pudukottai, who entered into an agreement with the British—led to the capture of Kattabomman.



## POLYGAR

It was the feudal title for a class of territorial **administrative and military governors** appointed by the Nayaka rulers of South India during the 16th–18th centuries.

Their role was to **administer their territories** from their fortified centres.

Their chief functions were to collect taxes, maintain law and order, run the local judiciary, and **maintain a battalion of troops for the king**.

### 2<sup>nd</sup> Phase of the War

- The second phase, which was more violent than the previous one, started in February 1801 when the **poligars imprisoned in the fort of Palamcotta were able to escape**.
- The rebels took control of many forts and even captured Tuticorin. The British forces were soon reinforced from Malabar.
- The fugitives led by **Oomathurai, brother of Kattabomman**, who fled to **Sivaganga in Ramnad** joined the **rebellion of the 'Marudus' led by Marathu Pandian** which was suppressed in October 1801.

### 3<sup>rd</sup> Phase of the war

- Between 1803 and 1805, the poligars of North Arcot rose in rebellion, when they were **deprived of their right to collect the kaval fees**.
- By February 1805, the rebels were suppressed.
- Several poligars were ordered to reside in Madras while some others were granted an allowance of 18 per cent upon revenues of their estates.

#### Kaval

Kaval or 'watch' was an ancient institution of Tamil Nadu.

It was a hereditary village police office with specified rights and responsibilities.

## MOAMORIA REBELLION

The Moamoria rebellion (1769–1805) was the 18th century uprising in Ahom kingdom of present-day Assam that began as power struggle between the Moamorias (Mataks), the adherents of the Moamara Sattrā, and the Ahom kings.



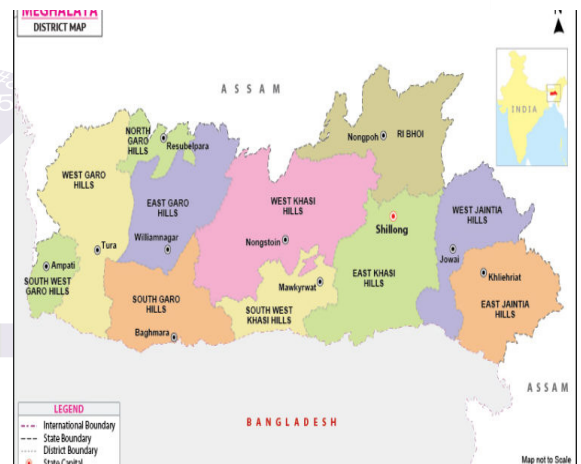
- The Moamorias were the **followers of the Moamaria sattrā** that was predominantly Morans.
- The rising popularity of Moamoria sattrā had **siphoned off the power of orthodox Hindu groups and Shakti sect** which supported the Ahom kings.
- The sattras provided refuge for those seeking to escape the Paik system under which, any able-bodied person who was not a Brahmin or a noble could be used for **labour, services or conscripted into the army**.
- The rise of the sattras was one of the reasons for the leakage of manpower from the Paik system, and as a result the Ahom kingdom and the sattras came into increasing conflict.
- The Ahom kingdom watched the growth of this sattrā with discomfort and heaped insult and repression on the followers of this sattrā.
- The Moamoria Rebellion started during the reign of Swargadeo Lakshmi Singha and ended during the reign of Swargadeo Kamaleswar Singha. It continued up to 36 years, from 1769 to 1805.
- To crush these revolts, the Ahom ruler had to request for British help. Although, the Ahom kingdom survived the rebellion, the weakened kingdom fell to a Burmese invasion and finally came under British rule.

### The Moamarias

These were low-caste peasants who followed the **teachings of Aniruddhadeva (1553-1624)**, and their rise was similar to that of other low-caste groups in north India. Their revolts weakened the Ahoms and opened the doors for others to attack the region.

## KHASI UPRISING

- After having occupied the hilly region between Garo and Jaintia Hills, the East India Company wanted to **build a road linking the Brahmaputra Valley with Sylhet**.
- For this, a large number of outsiders including Englishmen, Bengalis and the labourers from the plains were brought to these regions.
- The **Khasis, Garos, Khamptis and the Singphos** organised themselves under Tirath Singh to drive away the strangers from the plains.
- The uprising developed into a popular revolt against British rule in the area. By 1833, the superior English military force had suppressed the revolt.



## KHASI PEOPLE

It is an ethnic group of Meghalaya in north-eastern India with a significant population in the bordering state of Assam, and in certain parts of Bangladesh.

The Khasi people form the majority of the population of the eastern part of Meghalaya, and is the **state's largest community**, with around 48% of the population of Meghalaya.

A cultural tradition of the Khasi people is that they follow the matrilineal system.

Under the Constitution of India, the Khasis have been granted the status of Scheduled Tribe.

## SINGPHOS REBELLION

The rebellion of the Singphos in Assam in early 1830 was immediately quelled but they continued to organise revolts. An uprising in 1839 saw the death of the British political agent. Chief Nirang Phidu led an uprising in 1843, which involved an attack on the British garrison and the death of many soldiers.

## THE PAGAL PANTHIS

- The Pagal Panthi, a semi-religious group mainly constituting the Hajong and Garo tribes of Mymensingh district (earlier in Bengal), was founded by Karam Shah.
- Karim Shah and his followers addressed each other as "Bhaisaheb" (brother) to promote equality and brotherhood.
- Karim Shah himself was popularly believed to possess spiritual powers enabling him to foretell events, cure diseases and heal people.
- After the death of Karim Shah in 1813, the order was led by his son Tipu Shah. Chandi Bibi, the wife of Karim Shah and Tipu Shah's mother also held an influential position in the community, known as Pir-Mata (Saint-Mother).
- The **movement was shunned and criticised by Bengali Muslim society and its leaders**, who condemned religious syncretism and referred to the order as Pagal Panthis – literally the followers of a "mad faith."
- The region had been devastated by war between British forces and Burma. To meet the costs of war, **severe taxation was imposed on the region's peasants by the Company and the landlords**. Forcible collections and usurpation of property increased peasant discontent and disorder.
- The patron-saint of the Pagal Panthis, **Majnu Shah**, had been famous for encouraging revolts against the British East India Company, which had gained control over Bengal and later much of India.
- Under Tipu Shah, the order focused on organising peasants in rebellions against oppressive taxes and laws imposed by the zamindars (landlords) and the British.
- The people of the region stopped paying taxes to the British and followed Tipu Shah's rulings. Although **Tipu Shah and his aides were arrested in 1833 and tried**, the government subsequently met many of the peasant demands, including lowering the rent rate and other taxes.
- After Tipu Shah's death in 1852, the order came under the **leadership of Janku and Dobraj Pathor**, who organised another peasant resistance movement against the landlords and British authorities.
- An armed group of Pagal Panthis under the leadership of the Pathors stormed into Sherpur town, looted government offices and overpowered the officials, landlords and police, forcing them to flee to Mymensingh.
- Declaring themselves rulers of the town and surrounding areas, the rebels held control for almost two years.

### Additional Information

The Pagal Panthis ('followers of the mad path') were a socio-religious order that emerged in the late 18th century CE in the **Mymensingh region of Bengal** (now located in Bangladesh).

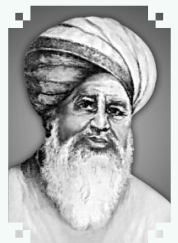
Adherents of a syncretic mixture of **Hinduism, Sufism and Animism**, the order sought to uphold religious principles and the rights of landless peasants in Bengal.

Under the leadership of Tipu Shah, the movement soon **evolved into a popular, armed struggle** against British Raj and the zamindar (landlord) system.

**Negotiations and compromises between the rebels and the British helped forge peace and further concessions to the cause of the peasants.**

## FARAIZI REVOLT

- The Faraizi movement was a movement led by **Haji Ali Hamza Awan** in Eastern Bengal to give up un-Islamic practices and act upon their duties as Muslims.
- Founded in 1819, the movement protected the rights of tenants to a great extent.



### Philosophy behind this Movement:

The Faraizis adhered to the **Hanafi school** with certain differences in practices:

- **Tawbah** i.e., to be penitent for past sins as a measure for the purification of soul
- To observe strictly the obligatory duties of **Faraiz**.
- Strict adherence to Tawhid.
- India being Dar al Harb, **Friday prayers and Eid prayers were not obligatory**.
- Denouncing all cultural rites and ceremonies, which had no reference to the Quran and Sunnah, as bidah or sinful innovations.

**It was a religious reform movement founded in rural areas of East Bengal. It was initially peaceful but later turned violent.**

- During Mughal India, all temporary and conditional taxes and impositions levied by the government over and above regular taxes were referred to as abwabs.
- Haji Shariatullah then intervened to object to such a practice and commanded his disciples not to pay these dishonest cesses to the landlords.
- The Faraizis ordained their peasant followers not to obey such a ban. All these heated instances added up to tensed and stressed relationships amongst the Faraizis and the landlords, who were all Hindus.
- The outraged landlords built up a propaganda campaign with the British officials, incriminating the Faraizis with a mutinous mood.
- In 1837, these Hindu landlords indicted Haji Shariatullah of attempting to build up a kingdom of his own.
- Shariatullah was placed under the detention of the police in more than one instance, for purportedly inciting agrarian turbulence in Faridpur.
- After the death of Haji Shariatullah, his son, Dudu Miyan, led the movement to a more agrarian character. He organised the oppressed peasantry against the oppressive landlords.
- Dudu Miyan died in 1862 and before his death he had appointed a board of guardians to look after his minor sons, Ghiyasuddin Haydar and Abdul Gafur alias Naya Miyan who succeeded him successively. The board, with great difficulty, kept the dwindling movement from falling to pieces.
- The Faraizi disturbances continued up to 1857. Most of the Faraizis joined the Wahabi ranks.

### Self Notes

CHAHAL  
ACADemy