

CURRENT AFFAIRS



Month of
JANUARY-2022



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Polity and Governance

Highlights

- *Protecting Vulnerable Witnesses: SC*
- *Lok Adalat*
- *Right to Privacy*
- *Unemployment in India*
- *Language of Courts in India*
- *Increased Election Expenditure Limit*
- *Protection of Women from Sexual Harassment (POSH) Act, 2013*
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- *Green Energy Corridor*
- *National Water Awards*

Protecting Vulnerable Witnesses: SC

Why in News

Recently, the **Supreme Court (SC)** expanded the **meaning of vulnerable witnesses** to also include among others sexual assault victims, those with **mental illness** and people with speech or hearing impairment.

- The SC referred to a verdict of **1996** in which it had **passed similar directions**, then in **2004 and in 2017**, when it had asked all the High Courts of the country to adopt the guidelines prepared by the Delhi High Court in 2017 for vulnerable witnesses.

Key Points

- **Vulnerable Witnesses:** Vulnerable witnesses **will not be limited to mean only child witnesses**. It will also include
 - Age-neutral victims of sexual assault.
 - Gender-neutral victims of sexual assault, under **section 377 IPC** (unnatural offences).
 - Witnesses suffering from mental illness as defined in **Mental Healthcare Act, 2017**.

- Witnesses with threat perception and any speech or hearing impaired individual or person suffering from any other disability.
- **Vulnerable Witness Deposition Centre (VWDC):** The SC directed that all High Court's (HC) adopt and notify a **Vulnerable Witness Deposition Centre (VWDC) scheme** within a period of two months.
 - VWDC will provide a safe and barrier-free environment for recording the evidence of vulnerable witnesses.
 - The SC asked HC's to ensure that there is one VWDC in each district.
 - These VDWC should be established in close proximity to **Alternate Dispute Resolution (ADR) centres**.
- **Sensitising Stakeholders:** The SC also **pointed to the importance of conducting training programs** to manage VWDC and sensitising all stakeholders including members of the bar, bench and staff.
 - The SC urged former **Chief Justice of Jammu and Kashmir HC** Justice Gita Mittal to act as Chairperson of a committee for designing and implementing an **All India VWDC training program**.

- The SC also directed the Chairperson of the committee to engage with **National and State Legal Services Authorities** to provide an effective interface for schemes of training.
- It also asked the Union Ministry of Women and Child Development to designate a **nodal officer** for coordinating logistical support to the Chairperson.

Witness Protection in India

- In 2018, the SC approved the **Witness Protection Scheme 2018** which aimed at enabling a witness to depose fearlessly and truthfully. Under the Judgement, SC held that:
 - Right of witnesses to testify freely in courts is part of **Article 21 (Right to Life)**.
 - The scheme will be the law under **Article 141/142 of the Constitution of India**.
 - The bench has also asked all States and UTs to set up vulnerable witness deposition complexes.
- While the **scheme is pending in the Parliament**, the SC had ordered to implement the scheme immediately in all the states and the scheme would be the law of the land.
- The need to protect witnesses has been emphasised by **Law Commission** reports and court judgments for years.
 - The **State of Gujarat v. Anirudh Singh (1997)**, 14th Law Commission Report and **Malimath Committee Report** has recommended a witness protection scheme.

Lok Adalat

Why in News

Lok Adalat has emerged as the **most efficacious tool of Alternative Dispute Resolution**.

- A total number of 1,27,87,329 cases were disposed of in 2021. Due to technological advancement like **E-Lok Adalats**, **Lok Adalats have reached the doorsteps of parties**.

Key Points

- **About:**
 - The term '**Lok Adalat**' means '**People's Court**' and is based on Gandhian principles.

- As per the **Supreme Court**, it is an old form of adjudicating system prevalent in ancient India and its validity has not been taken away even in the modern days too.
- It is one of the components of the **Alternative Dispute Resolution (ADR) system** and delivers informal, cheap and expeditious justice to the common people.
- The first **Lok Adalat camp was organized in Gujarat in 1982** as a voluntary and conciliatory agency without any statutory backing for its decisions.
- In view of its growing popularity over time, it **was given statutory status under the Legal Services Authorities Act, 1987**. The Act makes the provisions relating to the organization and functioning of the Lok Adalats.

➤ **Organization:**

- The State/District Legal Services Authority or the Supreme Court/High Court/Taluk Legal Services Committee may organize Lok Adalats at such intervals and places and **for exercising such jurisdiction and for such areas as it thinks fit**.
 - Every Lok Adalat organized for an area **shall consist of such number of serving or retired judicial officers and other persons of the area** as may be specified by the agency organizing.
 - Generally, a **Lok Adalat consists of a judicial officer as the chairman** and a lawyer (advocate) and a social worker as members.
 - **National Legal Services Authority (NALSA)** along with other Legal Services Institutions conducts Lok Adalats.
 - NALSA was constituted under the **Legal Services Authorities Act, 1987** which came into force on **9th November 1995** to establish a nationwide uniform network for providing free and competent legal services to the weaker sections of the society.
 - The Legal Services Authorities Act, 1987 was **amended in 2002 to provide for the establishment of the Permanent Lok Adalats** to deal with cases pertaining to the public utility services.
- ### ➤ **Jurisdiction:**
- A Lok Adalat shall have **jurisdiction to determine and to arrive at a compromise or settlement** between the parties to a dispute in respect of:
 - Any case pending before any court, or

- Any matter which falls within the jurisdiction of any court and is not brought before such court.
- Any case pending before the court **can be referred to the Lok Adalat for settlement if:**
 - Parties agree to settle the dispute in the Lok Adalat or one of the parties applies for referral of the case **to the Lok Adalat or court is satisfied that the matter can be solved** by a Lok Adalat.
 - In the case of a pre-litigation dispute, the **matter can be referred to the Lok Adalat on receipt of an application from any one of the parties** to the dispute.
- Matters such as matrimonial/family disputes, criminal (compoundable offenses) cases, land acquisition cases, labor disputes, workmen's compensation cases, bank recovery cases, etc. **are being taken up in Lok Adalats.**
- However, the Lok Adalat shall have no jurisdiction in respect of any case or matter relating to an offense **not compoundable under any law.** In other words, the offenses which are **non-compoundable under any law fall outside the purview** of the Lok Adalat.
- **Powers:**
 - The Lok Adalat shall have the same powers as are **vested in a Civil Court under the Code of Civil Procedure (1908).**
 - Further, a Lok Adalat shall have the **requisite powers to specify its own procedure for the determination of any dispute** coming before it.
 - All proceedings before a Lok Adalat shall be deemed to be **judicial proceedings within the meaning of the Indian Penal Code (1860)** and every Lok Adalat shall be deemed to be a Civil Court for the purpose of the Code of Criminal Procedure (1973).
 - An award of a Lok Adalat shall be deemed to be a decree of a Civil Court or an order of any other court.
 - Every award made by a Lok Adalat shall be final and binding on all the parties to the dispute. No appeal shall lie to any court against the award of the Lok Adalat.
- **Benefits:**
 - There is **no court fee and if court fee is already paid the amount will be refunded** if the dispute is settled at Lok Adalat.

- There is **procedural flexibility and speedy trial** of the disputes. There is no strict application of procedural laws while assessing the claim by Lok Adalat.
- The parties to the dispute **can directly interact with the judge** through their counsel which is not possible in regular courts of law.
- The award by the Lok Adalat is **binding on the parties and it has the status of a decree of a civil court and it is non-appealable**, which does not cause the delay in the settlement of disputes finally.

Right to Privacy

Why in News

Recently, a **Judge of the Madras High Court** has said that a recent order passed by another judge of the same court, **mandating the installation of CCTV cameras inside spas [massage and therapy centres]**, appears to run counter to the Supreme Court's landmark judgement in **K.S. Puttaswamy case (2017).**

- In this case, the Supreme Court declared that the **right to life and personal liberty** guaranteed in **Article 21** also implicitly includes a right to privacy.

Key Points

- **About:**
 - **Underlying Values:** This right to privacy is seen as possessing:
 - **Inherent value:** It is important for every person's basic dignity.
 - **Instrumental value:** It furthers a person's ability to live life free of interference.
 - **Forms of Right to Privacy:** The privacy as guaranteed in Article 21 takes several different forms. It includes:
 - A right to bodily autonomy,
 - A right to informational privacy,
 - A right to a privacy of choice.
 - **Right to Relax:** Suspicion that immoral activities are taking place in spas **cannot be a reason** enough to intrude into an individual's right to relax, for it intrinsically is part and parcel of his fundamental right to privacy.
 - Thus, the installation of CCTV equipment inside premises such as a spa **would unquestionably go against a person's bodily autonomy.**

- These are inviolable spaces where the prying eye of the State cannot be allowed to enter.
- **Doctrine of Separation of Powers:** The reach of the fundamental rights cannot be curtailed by any judicial measure.
 - It held that, though no right can be absolute, restrictions can be put in place only by the legislature or the executive.
 - Apart from it, the Supreme Court alone can do so in exercise of its power under **Article 142**.

Right to Privacy

- **About:**
 - Generally understood that privacy is synonymous with the **right to be let alone**.
 - The Supreme Court described privacy and its importance in the landmark decision of *K.S. Puttaswamy v. Union of India* in 2017.
 - The right to privacy is protected as an intrinsic part of the right to life and personal liberty under **Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution**.
 - The Puttaswamy judgement holds that the right to privacy is protected as a fundamental constitutional right under **Articles 14, 19 and 21** of the Constitution of India.
- **Restrictions (as stated in the Judgement):**
 - The right may be restricted only by state action that passes each of the three tests:
 - First, such state action must have a **legislative mandate**;
 - Second, it must be pursuing a **legitimate state purpose**; and
 - Third, it **must be proportionate** i.e., such state action- both in its nature and extent, must be necessary in a democratic society and the action ought to be the least intrusive of the available alternatives to accomplish the ends.
- **Step taken by Government:** Acknowledging the importance of privacy, the Government has presented the **personal Data Protection Bill 2019** in the Parliament.

Unemployment in India

Why in News

According to data from the **Centre for Monitoring Indian Economy (CMIE)**, India's unemployment rate touched a four-month high of **7.9% in December 2021**.

- With **Covid-19** cases on the rise amid the threat posed by the **Omicron variant** and many states imposing fresh curbs, economic activity and consumption levels have been affected.
- This could adversely affect **economic recovery further going ahead**.

Key Points

- **About Unemployment:**
 - Unemployment occurs when a person who is **actively searching for employment is unable to find work**.
 - Unemployment is often **used as a measure of the health of the economy**.
 - The most frequent measure of unemployment is the **unemployment rate**, which is the number of unemployed people divided by the number of people in the labour force.
 - **National Sample Survey Organisation (NSSO)** defines employment and unemployment on the following activity statuses of an individual:
 - Working (engaged in an economic activity) i.e. 'Employed'.
 - Seeking or available for work i.e. 'Unemployed'.
 - Neither seeking nor available for work.
 - The first two constitute the labour force and unemployment rate is the percent of the labour force that is without work.
 - **Unemployment rate = (Unemployed Workers/ Total labour force) × 100**
- **Types of Unemployment in India:**
 - **Disguised Unemployment:** It is a phenomenon wherein more people are **employed than actually needed**.
 - It is primarily traced in the agricultural and the **unorganised sectors of India**.
 - **Seasonal Unemployment:** It is an unemployment that occurs during **certain seasons of the year**.

- **Agricultural labourers in India** rarely have work throughout the year.
 - **Structural Unemployment:** It is a category of unemployment arising from the **mismatch between the jobs available** in the market and the skills of the available workers in the market.
 - Many people in India do not get jobs due to lack of requisite skills and due to poor education level, it becomes difficult to train them.
 - **Cyclical Unemployment:** It is a result of the business cycle, where **unemployment rises during recessions and declines with economic growth.**
 - Cyclical unemployment figures in India are negligible. It is a phenomenon that is mostly found in capitalist economies.
 - **Technological Unemployment:** It is the loss of jobs due to **changes in technology.**
 - In 2016, **World Bank** data predicted that the proportion of jobs threatened by automation in India is 69% year-on-year.
 - **Frictional Unemployment:** The Frictional Unemployment also called as **Search Unemployment**, refers to the **time lag between the jobs when an individual** is searching for a new job or is switching between the jobs.
 - In other words, an employee requires time for searching a new job or shifting from the existing to a new job, this inevitable time delay causes frictional unemployment.
 - It is often considered as **voluntary unemployment** because it is not caused due to the shortage of job, but in fact, the workers themselves quit their jobs in search of better opportunities.
 - **Vulnerable Employment:** This means, people working informally, without proper job contracts and thus sans any legal protection.
 - These persons are deemed 'unemployed' since records of their work are never maintained.
 - It is one of the main types of unemployment in India.
- **Causes of Unemployment in India:**
- **Social Factors:** In India the caste system is prevalent. The work is **prohibited for specific castes** in some areas.
 - In **big joint families** having big business, many such persons will be available who do not do any work and depend on the joint income of the family.
 - **Rapid Growth of Population:** Constant increase in population has been a big problem in India.
 - It is one of the **main causes of unemployment.**
 - **Dominance of Agriculture:** Still in India nearly half of the workforce is dependent on Agriculture.
 - However, Agriculture is underdeveloped in India.
 - Also, it provides seasonal employment.
 - **Fall of Cottage and Small industries:** The industrial development had adverse effects on cottage and small industries.
 - The production of cottage industries began to fall and many artisans became unemployed.
 - **Immobility of Labour:** Mobility of labour in India is low. Due to attachment to the family, people do not go to far off areas for jobs.
 - Factors like language, religion, and climate are also responsible for low mobility.
 - **Defects in Education System:** Jobs in the capitalist world have become highly specialised but India's education system does not provide the right training and specialisation needed for these jobs.
 - Thus many people who are willing to work become unemployed due to lack of skills.

Recent Initiatives by Government
Support for Marginalized Individuals for Livelihood and Enterprise (SMILE)
PM-DAKSH (Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi)
Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
Start Up India Scheme

Language of Courts in India

Why in News

Recently, the Gujarat High Court has asked a journalist facing **contempt of court** proceedings to **speak only in English as that was the language in the higher judiciary.**

Key Points

- **Background:**
 - The language used in Courts in India has seen a **transition over centuries with the shift from Urdu**

to Persian and Farsi scripts during the Mughal period which continued in subordinate courts even during the British Rule.

- The British introduced a codified system of law in India with English as the official language.
- Post-independence, Article 343 of the Constitution of India provides that the official language of the Union shall be Hindi in the Devanagari script.
- However, it mandated that the English language will continue to be used for all official purposes of the Union for 15 years from the commencement of the Constitution of India.
 - It further provides that the President may, during the said period, by order to authorise the use of the Hindi language for any official purpose of the Union, other than the English language.

➤ **About:**

- Article 348(1)(a) states that unless Parliament by law provides otherwise, all proceedings before the Supreme Court and in every High Court shall be conducted in English.
- Article 348(2) provides further that notwithstanding the provisions of Article 348(1), the Governor of a state may, with the previous consent of the President, authorise the use of Hindi or any other language used for any official purpose, in proceedings in the High Court.
 - States of Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have already authorised the use of Hindi in proceedings before their respective high courts and taking a cue, Tamil Nadu is also working in that direction – to authorise the use of Tamil before its high court.
- A further provision states that nothing in this clause would apply to any judgement, decree, or order made by the High Court.
- Therefore, the Constitution recognizes English as the primary language of the Supreme Court and the High Courts, with the caveat that when some other language is used in the proceedings of High Courts, judgments of the High Courts must be delivered in English.

➤ **Official Languages Act 1963:**

- It empowers the Governor of a state to, with previous consent of the President, authorise the

use of Hindi/the official language of the state, in addition to English, for the purpose of any judgement, decree or order passed by the High Court of that state.

- It further provides that where any judgement/decree/order is passed in any such language it shall be accompanied by a translation of the same in English.
 - Read with the constitutional provisions, it is clear that primacy is given to English even by this Act.
- The Official Languages Act makes no mention of the Supreme Court, where English is the only language in which proceedings are conducted.

Note

The litigant has the fundamental right to understand and participate in the courtroom proceedings as it arguably confers a bundle of rights under Article 19 and Article 21. The litigant has the right to speak in the language he/she understands before the magistrate. Similarly “right to justice” is also recognised under Article 21 of the Constitution. So, the constitution has conferred the right to justice on the litigant which further encompasses that he shall have the right to understand the whole proceedings and the judgement delivered.

➤ **Language of Subordinate Courts:**

- The language of all courts subordinate to High Courts generally remains the same as the language on the commencement of the Civil Procedure Code 1908, till the state government determines.
- There are two provisions regarding the use of language in subordinate courts. Under Section 137 of the Code of Civil Procedure, the language of the district courts shall be similar to the language of the act.
- The state government has the power to declare any regional language as an alternative for the proceedings of the court.
 - However, judgments, orders, and decree may be passed by the magistrate in English.
 - The recording of the evidence shall be done in the prevailing language of the state.

- In case of a pleader being unacquainted with English, a translation into the language of the court shall be supplied to him on his request and the court shall bear such costs.
- **Section 272 of the Code of Criminal Procedure 1973**, states that the State government shall determine the language of all courts other than the High Courts. So, broadly it means that the language used in the district courts shall be in the regional language as the state government directs.
- **Reasons for Using English:**
 - Just like cases from all over the country come to the Supreme Court, **judges and lawyers of the Supreme Court also come from all parts of India.**
 - Judges can hardly be expected to read documents and hear arguments in languages with which they are not familiar.
 - Without the use of English, **it would be impossible to discharge their duty. All judgments of the Supreme Court are also delivered in English.**
 - Though, in 2019, the Court introduced an initiative to **translate its judgments into regional languages**, it is rather a tall order given the sheer volumes of judgments which the Court delivers.
- **Significance of Using English:**
 - **Uniformity:** At present the judicial system in India is well developed, integrated and uniform throughout the country.
 - **Easy Access:** Lawyers as well as the judges have the **benefit of easy access to the views of other high courts on similar legislations** and other matters of law and constitution.
 - **Seamless Transfers:** Presently, the judges **from one high court are transferred to other high courts seamlessly.**
 - **Unified Structure:** This has given a **unified structure to the Indian judicial system.** The hallmark of any robust legal system is that the law should be certain, precise and predictable and we have nearly achieved that in India.
 - **Link Language:** To a very great extent, we owe it to the **English language, which has served as a link language for India** where we have about two dozen official state languages.

Increased Election Expenditure Limit

Why in News

Recently, the **expenditure limit** for candidates for Lok Sabha constituencies was increased from **Rs 54 lakh-Rs 70 lakh** (depending on states) to **Rs 70 lakh-Rs 95 lakh**, by the **Election Commission of India (ECI).**

- Further, the spending limit for Assembly constituencies was hiked from **Rs 20 lakh-Rs 28 lakh** to **Rs 28 lakh- Rs 40 lakh** (depending on states).
- In 2020, the ECI had formed a **committee in 2020 to study the election spending limit.**

Key Points

- **About:**
 - The enhanced amount of Rs 40 lakh would apply in **Uttar Pradesh, Uttarakhand and Punjab** and ₹28 lakh in **Goa and Manipur.**
 - Apart from a 10% increase in 2020 due to the **Covid-19 pandemic**, the last major revision in spending limits for candidates was carried out in 2014.
 - The committee found that there has been an increase in the number of electors and **Cost Inflation Index** since 2014 substantially.

Cost Inflation Index

It is used to estimate the increase in the prices of goods and assets year-by-year due to inflation.

It is calculated to match the prices to the inflation rate. In simple words, an increase in the inflation rate over time will lead to a rise in the prices.

Cost Inflation Index = 75% of the average rise in the Consumer Price Index (urban) for the immediately preceding year.

Consumer Price Index compares the current price of a basket of goods and services (which represent the economy) with the cost of the same basket of goods and services in the previous year to calculate the increase in prices.

The Central Government specifies CII by notifying in the official gazette.

➤ **Election Expenditure Limit:**

- It is the **amount an election candidate can legally spend for their election campaign** and has to account for, which includes expenses on public meetings, rallies, advertisements, posters, banners, vehicles and advertisements.
- Under **Section 77 of the Representation of the People Act (RPA), 1951**, every candidate shall keep a separate and correct account of all expenditure incurred between the date on which they have been nominated and the date of declaration of the result.
- All candidates are required to submit their expenditure statement to the ECI within **30 days** of the completion of the elections.
- An incorrect account or expenditure beyond the cap can lead to disqualification of the candidate by the ECI for up to three years, **under Section 10A of RPA, 1951**.
- The limit prescribed by the ECI is meant for legitimate expenditure because a lot of money in **elections is spent for illegitimate purposes**.
- It has often been argued that these **limits are unrealistic** as the actual expenditure incurred by the candidate is much higher.
- In December 2019, a **private member's bill** was introduced in the Parliament which intended to do away with the cap on election spending by candidates.
- The move was taken on the grounds that the ceiling on election expenses ends up being counterproductive by encouraging candidates to under-report their expenditure.
- There is **no cap on a political party's expenditure**, which is often exploited by candidates of the party.
 - However, **all registered political parties have to submit a statement of their election expenditure to the ECI within 90 days of the completion of the elections**.

Recommendations on State Funding

- **Indrajit Gupta Committee (1998):** It suggested that state funding would ensure a level playing field for poorer political parties and argued that such a move would be in public interest.
 - It also recommended that state funds should only be given to recognised national and State parties and funding should be given in the form of free facilities provided to these parties and their candidates.

- **Law Commission Report (1999):** It stated that a state funding of elections is 'desirable' provided that political parties are prohibited from taking funds from other sources.
- **National Commission to Review the Working of the Constitution (2000):** It did not support the idea but mentioned that an appropriate framework for the regulation of political parties needs to be implemented before state funding is considered.

Protection of Women from Sexual Harassment (POSH) Act, 2013

Why in News

Recently, a petition has been filed in the **Supreme Court** challenging **guidelines** issued by the **Bombay High Court** in cases under the **Protection of Women from Sexual Harassment (POSH) Act, 2013**.

- The provision that challenged pertains to **blanket bar on parties and advocates from sharing records, including orders and judgments, with the media**.
- The guidelines were formed by **Justice G.S. Patel** of the Bombay High Court ostensibly to protect the identities of the parties in a case under the POSH Act.

Key Points

- **Arguments of the Petitioner:**
 - **Against Spirit of Article 19:** The petitioner argued that a blanket bar is against the **freedom of speech and expression** enshrined under **Article 19**.
 - The petition said a well-informed citizenry governs itself better.
 - Right to free speech **can be curbed only if it interferes with the administration of justice**.
 - Any injunction on the right of the people to know true and accurate facts is an encroachment on their **right to information**.
 - **Suppression of Women's Voices:** It can serve as a tool for powerful men to continue sexually harassing women and thereafter suppressing their voices on social media and in the news media.
 - In matters of **social justice and women empowerment, public discourse** plays a crucial role in shaping the nature of legal entitlements that are delivered to women.

- The order may have a “**ripple effect**” and deter survivors from approaching courts as well as setting a dangerous precedent for trial cases.
- **Against Principle of Open Court:** The legitimise undue protection to sexual offenders in gross violation of principles of **open court and fundamental rights of survivors**.
 - An **open court serves an educational purpose**.
 - The court becomes a platform for citizens to know how the practical application of the law impacts upon their rights.

Protection of Women Against Sexual Harassment Act, 2013

- **Background:** The Supreme Court in a landmark judgement in the *Vishakha and others v State of Rajasthan 1997* case gave ‘**Vishakha guidelines**’.
 - These guidelines formed the basis for the The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (“**Sexual Harassment Act**”).
- **Mechanism:** The Act defines sexual harassment at the workplace and creates a **mechanism for redressal of complaints**.
 - Every employer is required to **constitute an Internal Complaints Committee** at each office or branch with 10 or more employees.
 - The Complaints Committees have the **powers of civil courts** for gathering evidence.
 - The Complaints Committees are required to **provide for conciliation** before initiating an inquiry if requested by the complainant.
- **Penal Provisions:** Penalties have been prescribed for employers. Non-compliance with the provisions of the Act shall be punishable with a fine.
 - Repeated violations may lead to higher penalties and cancellation of license or registration to conduct business.
- **Responsibility of Administration:** The State Government will notify the District Officer in every district, who will constitute a Local Complaints Committee (LCC) so as to enable women in the unorganised sector or small establishments to work in an environment free of sexual harassment.

Note: SHe-Box

- The Ministry of Women & Child Development has launched Sexual Harassment electronic Box (SHe-Box).
- It is an **effort to provide a single window access to every woman**, irrespective of her work status, whether working in organised or unorganised, private or public sector, to facilitate the registration of complaint related to sexual harassment.
- Any **woman** facing sexual harassment at the workplace **can register their complaint through this portal**.
- Once a complaint is submitted to the ‘SHe-Box’, it will be directly sent to the concerned authority having jurisdiction to take action into the matter.

Criminalising Marital Rape

Why in News

- Recently, a batch of petitions seeking **criminalisation of marital rape**, has been filled in the Delhi High Court.
- In response to it the **Union government** has replied that it is considering a “**constructive approach**” towards criminalising it and had sought suggestions from various stakeholders.
 - The petition seeks to amend the criminal law, which includes **Section 375 (rape) of the Indian Penal Code (IPC)**.

Key Points

- **Background:**
 - The grounds for “**marital immunity**” for rape prosecution have emerged from the patriarchal discourse in society.
 - According to which, a husband **cannot be guilty of a rape** committed upon his lawful wife because she has given up herself in this kind to her husband by their **mutual matrimonial consent and contract**, which she cannot retract.
 - Under the impact of the second wave of feminism in the seventies, **Australia became the first common law country to pass reforms in 1976** and after it, many **Scandinavian and European countries** made rape in marriage a criminal offence.
- **Legal Provision Regarding Marital Rape:**
 - **Marital Rape Exception: Section 375 of the Indian Penal Code**, which exempts forceful **sexual intercourse by a man** with his own wife from the offence of rape, provided the wife is above **15 years of age**, also known as the “**marital rape exception**”.
- **Issues With Marital Rape Exception:**
 - **Against Basic Rights of Women:** This exception clause violates the women’s **fundamental right to equality, freedom of speech and expression, and most of all the right to life and personal liberty.**
 - It also denies the **agency over their own bodies to women.**
 - **Dismal State of Judicial System:** Some of the reasons for low rates of prosecution in the cases of marital rape in India include:
 - Low reporting of crimes due to societal conditioning and low legal awareness.
 - Inaccurate method of collection of **National Crime Records Bureau (NCRB) data.**
 - Out of court settlements due to the lengthy process of justice/lack of admissible proof.
 - **Justice J. S. Verma Committee Recommendation:** The **Justice J. S. Verma Committee**, constituted in the aftermath of the horrific **Nirbhaya gang rape in 2012.**
 - While some of its recommendations helped shape the **Criminal Law (Amendment) Act, 2013**, its most radical suggestions, including on **marital rape, were swept under the carpet.**

➤ Government’s Stand:

- **Distablisng Effect on Institution of Marriage:** Uptil now, the government has said on multiple occasions that criminalising marital rape **will threaten the institution of marriage and will also impinge the right to privacy.**
- **Misuse of Legal Provisions:** There is a growing misuse of **Section 498A (harassment caused to a married woman by her husband and in-laws)** of IPC and the **Protection of Women from Domestic Violence Act, 2005.**
 - Criminalising marital rape **could become an easy tool for harassing husbands.**

Assam-Meghalaya Border Dispute

Why in News

Ahead of Meghalaya’s 50th Statehood Day celebration on 21st January, the Home Minister is expected to seal the **final agreement to end the dispute** in six areas of the **Assam-Meghalaya boundary.**

Key Points

- **About:**
 - Assam and Meghalaya share an **885-km-long border.** As of now, there are **12 points of dispute along their borders.**
 - The Assam-Meghalaya border dispute are the areas of Upper Tarabari, Gazang reserve forest, Hahim, Langpih, Borduar, Boklapara, Nongwah, Matamur, Khanapara-Pilangkata, Deshdemoreah Block I and Block II, Khanduli and Retacherra.

- Meghalaya was carved out of Assam under the **Assam Reorganisation Act, 1971**, a law that it challenged, leading to disputes.
- **Major Point of Contention:**
 - A major point of contention between Assam and Meghalaya is the **district of Langpoh in West Garo Hills** bordering the Kamrup district of Assam.
 - Langpoh was part of the Kamrup district during the British colonial period but post-Independence, it became part of the **Garo Hills** and Meghalaya.
 - Assam considers it to be part of the **Mikir Hills in Assam**.
 - Meghalaya has questioned Blocks I and II of the Mikir Hills -now Karbi Anglong region - being part of Assam. Meghalaya says these were parts of erstwhile United Khasi and Jaintia Hills districts.
- **Efforts to Resolve Disputes:**
 - Both Assam and Meghalaya have constituted **border dispute settlement committees**.
 - It has been decided to set up **two regional committees to resolve the border disputes** in a phased manner and five aspects will be considered while resolving the border dispute.
 - They are historical facts, ethnicity, administrative convenience, mood and sentiments of the people concerned and the contiguity of the land.
 - Six sites are in consideration in the first phase. These are Tarabari, Gijang, Hahim, Baklapara, Khanapara-Pilingkata and Ratacherra.
 - These disputed areas are part of Cachar, Kamrup Metro and Kamrup Rural on Assam's side and West Khasi Hills, Ri Bhoi district and East Jaintia Hills on Meghalaya's side.
- **Assam and Border Issues:**
 - The states of the **Northeast were largely carved out of Assam**, which has border disputes with several states.
 - Assam's border disputes with **Arunachal Pradesh and Nagaland** are pending in the **Supreme Court**.
 - Assam's **border disputes with Mizoram are currently in the phase of resolution** through negotiations.
- **Other Border Disputes between Different States:**
 - **Belagavi Border Dispute** (between Karnataka and Maharashtra)
 - **Odisha's Border Disputes**

Krishna Water Dispute

Why in News

Recently, two judges of the **Supreme Court** have **recused** themselves from hearing a matter related to the distribution of **Krishna water dispute** between **Andhra Pradesh, Telangana, Maharashtra and Karnataka**.

- They cited the reason that they **did not want to be the target of partiality** since the dispute is related to their home states.

Recusal of Judges

- It is the act of **abstaining from participation in an official action** such as a legal proceeding due to a **conflict of interest** of the presiding court official or administrative officer.
- When there is a **conflict of interest, a judge can withdraw from hearing** a case to prevent creating a perception that he carried a bias while deciding the case.
- There are **no formal rules governing recusals, although several SC judgments** have dealt with the issue.
 - In **Ranjit Thakur v Union of India (1987)**, the SC held that the test of the likelihood of bias is the reasonableness of the apprehension in the mind of the party.
 - The judge needs to look at the mind of the party before him, and decide that he is biased or not.

Key Points

- **About:**
 - In 2021 Andhra Pradesh alleged that the Telangana government had deprived it of its legitimate share of water for drinking and irrigation purposes in an **"unconstitutional and illegal" manner**.
 - The water of the **Srisailem reservoir** — which is the main storage for river water between the two states — has turned out to be a major warring point.
 - Andhra Pradesh protested against **Telangana's use of the Srisailem reservoir water** for power generation.
 - The Srisailem reservoir is constructed across the Krishna River in Andhra Pradesh. It is located in the **Nallamala hills**.

- It further contended that Telangana was refusing to follow decisions taken in the apex council constituted under the **Andhra Pradesh Reorganisation Act, 2014**, directions of **Krishna River Management Board (KRMB)** constituted under this Act and directions of the Centre.
- **Background:**
 - **Krishna Water Disputes Tribunal:**
 - In 1969, the **Krishna Water Disputes Tribunal (KWDT) was set up under the Inter-State River Water Dispute Act, 1956**, and presented its report in 1973.
 - At the same time, it was stipulated that the KWDT order may be reviewed or revised by a competent authority or tribunal any time after 31st May, 2000.
 - **Second KWDT**
 - **The second KWDT was instituted in 2004.** It delivered its report in 2010, which made allocations of the Krishna water at 65 % dependability and for surplus flows as follows: **81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.**
 - **After the KWDT's 2010 report:**
 - Andhra Pradesh challenged it **through a Special Leave Petition before the Supreme Court in 2011.**
 - In 2013, the KWDT issued a '**further report**', which was again challenged by Andhra Pradesh in the Supreme Court in 2014.
 - **Creation of Telangana:**
 - After the creation of Telangana, Andhra Pradesh has asked that **Telangana be included as a separate party at the KWDT** and that the allocation of Krishna waters be reworked **among four states, instead of three.**
 - It is relying on **Section 89** of The Andhra Pradesh State Reorganisation Act, 2014.
 - For the purposes of this section, it is **clarified that the project-specific awards already made by the Tribunal on or before the appointed day shall be binding on the successor States.**
- **Constitutional Provisions:**
 - **Article 262** of the Constitution provides for the adjudication of **inter-state water disputes.**
 - Under this, Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
 - The Parliament has enacted the two laws, the **River Boards Act (1956) and the Inter-State Water Disputes Act (1956).**
 - The **River Boards Act** provides for the establishment of river boards by the Central government for the regulation and development of inter-state river and river valleys.
 - **The Inter-State Water Disputes Act** empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
 - Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to **such a tribunal under this Act.**

Krishna River

- **Source:** It originates near **Mahabaleshwar (Satara)** in Maharashtra. It is the second biggest river in peninsular India after the Godavari River.
- **Drainage:** It runs from four states **Maharashtra** (303 km), **North Karnataka** (480 km) and the rest of its 1300 km journey in **Telangana** and **Andhra Pradesh** before it empties into the Bay of Bengal.
- **Tributaries:** **Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.**

Survey of Defence Land using Modern Technology

Why in News

Recently, the **Ministry of Defence** has **concluded a survey of nearly 18 lakh acres of defence land** scattered across 4,900 pockets across the country for effective land use and planning, and preventing encroachments.

Key Points

- **About:**
 - It is a remarkable achievement **since for the first time after independence, entire defence land has been surveyed** by using latest survey technology and in a large number of pockets in association with the Revenue authorities of various State Governments.
- **Use of Modern Technology:**
 - Modern survey technologies like **Electronic Total Station (ETS)** and **Differential Global Positioning System (DGPS)** were used in the survey.
 - **ETS** is integrated with Electronic Distance Measurement (EDM) to measure both vertical and horizontal angles and the slope distance from the instrument to a particular point, and an on-board computer to collect data and perform triangulation calculations.
 - **DGPS** is an advanced form of GPS navigation which provides greater positioning accuracy than the standard GPS.
 - **Drone imagery and Satellite imagery based surveys** were leveraged for reliable, robust and time bound outcomes.
 - For the first time, **Drone imagery based survey technology was used** for survey of lakhs of acres of defence land in Rajasthan.
 - Besides this, **Satellite Imagery based survey was done for the first time** for certain defence land pockets.
 - **3D Modelling techniques** for better visualisation of defence land in hilly area have also been introduced by utilising **Digital Elevation Model (DEM)** in association with **Bhabha Atomic Research Centre (BARC)**.

- A Digital Elevation Model (DEM) is a **representation of the bare ground (bare earth) topographic surface of the Earth** excluding trees, buildings, and any other surface objects.

➤ **Significance of this Achievement:**

- This mammoth exercise of survey of nearly 18 lakh acres of defence land is a **unique example of leveraging emerging technologies for land survey** in a short time in line with the Central Govt's emphasis on **Digital India**.
- Conducting this exercise after 75 years of Independence, also makes it a part of celebrations under the **Azadi Ka Amrut Mahotsav**.

➤ **Capacity Building for Land Survey:**

- A **Centre of Excellence (CoE) on land survey and Geographic Information System (GIS)** mapping has also been established in **National Institute of Defence Estates Management** for capacity building of Defence Estates officials in the field of latest survey technologies.
- The **CoE aims to be an apex survey institution** capable of imparting training of various levels to the officers of central and state government departments.

India's e-passports: Passport Seva Programme (PSP)

Why in News

Recently, the government of India has announced that it will soon **start issuing ePassports to citizens applying for a new passport** or renewing their expiring passport.

Key Points

- **About:**
 - The announcement is under an **agreement signed between the Ministry of External Affairs (MEA) and Tata Consultancy Services Limited (TCS)** which will facilitate the **next phase of the PSP (Passport Seva Programme) termed PSP-V2.0**.
 - The MEA-TCS collaboration has been a **part of the passport process since 2008** and has helped in increasing digitisation of the complex process that requires multiple stakeholders across the spectrum of the vast Government network.

- Tata Consultancy Services will ensure “**support functions**” like “**citizen interface**, technology backbone, call centres, training and change management”.
- The Government will exercise “**all sovereign and security related functions**” in the process of issuing passports.
- **Passport Seva Programme (PSP):**
 - PSP is one of the **several Mission Mode Projects (MMPs)** of India.
 - A Mission Mode Project (MMP) is an individual project within the **National e-Governance Plan (NeGP)** that focuses on one aspect of electronic governance, such as banking, land records or commercial taxes etc.
- **PSP-V2.0:**
 - The PSP-V2.0 is an **expansion and improvement of the PSP-V1.0**, an e-government tool that brought new changes to the delivery of passport-related services to individuals.
 - The new initiative is **aimed at creating a digital platform** that would be “transparent, more accessible and reliable” and that it would be backed by a trained workforce.
 - This will create a **state-of-the-art digital ecosystem**, overhaul existing processes and integrate various wings of Government that are involved in issuance of passports.
- **New Features of PSP-V2.0:**
 - The new programme is expected to have technology upgrades including the use of the latest **biometrics technology, Artificial Intelligence, Advance Data Analytics, Chat-Bot, Auto-response, Natural Language Processing, Cloud Enablement.**
 - The **newest feature** under the PSP-V2.0 will be the **issuance of the new generation of passports called e-passports.**
- **E-passports and its Significance:**
 - ePassport is an **upgrade to the traditional passport** and is aimed at making it more secure and ensuring smooth passage through immigration posts globally.
 - The ePassports will be **embedded with a chip** that will include personal details of the holder including biographical information.
 - The software for the ePassport has been developed by **IIT Kanpur and the National Informatics Centre (NIC).**

- NIC under the Ministry of Electronics and Information Technology (MeitY) is the technology partner of the Government of India. NIC was established in the year 1976 with the objective to provide technology-driven solutions to Central and State Governments.
- It will **ease immigration process across the world** and will also increase digital safety for the passport holders.
- The e-passports will follow the **International Civil Aviation Organisation (ICAO)** standards, and will be tougher, as well as harder to destroy.
 - ICAO is a **United Nations (UN) specialized agency**, established in 1944, which laid the foundation for the standards and procedures for peaceful global air navigation. India is its member.

Uniform Civil Code

Why in News

Recently, the Ministry of Law and Justice said in response to a **PIL** filed in 2019 that the implementation of the **Uniform Civil Code (UCC)**, a directive principle under the Constitution (Article 44), is a matter of public policy and that no direction in this regard can be issued by the Court.

- The Centre has **requested the Law Commission of India (21st)** to undertake examination of various issues relating to UCC and to make recommendations thereof.

Key Points

- **About:**
 - UCC is one that would provide for one law for the entire country, applicable to all religious communities in their personal matters such as marriage, divorce, inheritance, adoption etc.
 - Article 44 of the Constitution lays down that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.
 - Article 44 is one of the Directive Principles of State Policy (DPSP).
 - DPSP as defined in Article 37, are not justiciable (not enforceable by any court) but the principles laid down therein are fundamental in governance.

➤ **Status of Uniform Codes in India:**

- Indian laws do follow a uniform code in most civil matters such as **Indian Contract Act 1872**, Civil Procedure Code, Transfer of Property Act 1882, Partnership Act 1932, **Evidence Act, 1872** etc.
- States, however, have made hundreds of amendments and, therefore, in certain matters, there is diversity even under these secular civil laws.
 - Recently, several states refused to be governed by the **uniform Motor Vehicles Act, 2019**.

➤ **Background:**

- 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 legislation dealing with personal issues in the far end of British rule forced the government to form the B N Rau Committee to codify Hindu law in 1941.
- Based on these recommendations, a 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.
 - However, there were separate personal laws for muslim, christian and Parsis.
- In order to bring uniformity, the courts have often said in their judgements that the government should move towards a UCC.
 - The judgement in the **Shah Bano case** (1985) is well known.
 - Another case was the Sarla Mudgal Case (1995), which dealt with issue of bigamy and conflict between the personal laws existing on matters of marriage.
- By arguing that practices such as **triple talaq** and polygamy impact adversely the right of a woman to a life of dignity, the Centre has raised the question whether constitutional protection given to religious practices should extend even to those that are not in compliance with fundamental rights.

➤ **Implications of Uniform Civil Code on Personal Laws:**

- **Protection to Vulnerable Section of Society:**

- The UCC aims to provide protection to vulnerable sections as envisaged by Ambedkar including women and religious minorities, while also promoting nationalistic fervour through unity.

○ **Simplification of Laws:**

- The code will simplify the complex laws around marriage ceremonies, inheritance, succession, adoptions making them one for all. The same civil law will then be applicable to all citizens irrespective of their faith.

○ **Adhering to Ideal of Secularism:**

- Secularism is the objective enshrined in the Preamble, a secular republic needs a common law for all citizens rather than differentiated rules based on religious practices.

○ **Gender Justice:**

- If a UCC is enacted, all personal laws will cease to exist. It will do away with gender biases in existing laws.

➤ **Challenges:**

○ **Exceptions in Central Family Laws:**

- The preliminary sections in all central family law Acts enacted by Parliament since Independence declare that they will apply to “the whole of India except the state of Jammu and Kashmir.”
 - A Second exception was added in 1968 in all these Acts, pronouncing that “nothing herein contained shall apply to the Renoncants in the Union Territory of Pondicherry.”
 - A third exception, none of these Acts applies in Goa, Daman and Diu.
 - A fourth exception, relating to the north-eastern states of Nagaland and Mizoram, emanates from Articles 371A and 371G of the Constitution, decreeing that no parliamentary legislation will replace the customary law and religion-based system for its administration.

○ **Communal Politics:**

- The demand for a uniform civil code has been framed in the context of communal politics.
- A large section of society sees it as majoritarianism under the garb of social reform.

○ **Constitutional Hurdle:**

- **Article 25** of Indian constitution, that seeks to preserve the freedom to practise and propagate any religion gets into conflict with the concepts of equality enshrined under **Article 14** of Indian Constitution.

PMFME Scheme

Why in News

Recently, the Ministry of Food Processing Industries and **NAFED (National Agricultural Cooperative Marketing Federation of India Limited)** launched six, **One District One Product (ODOP) brands** under the **Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme**.

- The Ministry has signed an agreement with NAFED for developing **10 brands of selected ODOPs under the branding and marketing component of the PMFME scheme**. Out of these, six brands are Amrit Phal, Cori Gold, Kashmiri Mantra, Madhu Mantra, Somdana, and Whole Wheat Cookies of Dilli Bakes.

Key Points

➤ **About:**

- Launched under **Atma Nirbhar Abhiyan**, it aims to **enhance the competitiveness of existing individual micro-enterprises in the unorganised segment of the food processing industry** and to promote formalisation of the sector and provide support to **Farmer Producer Organisations, Self Help Groups, and Producers Cooperatives** along their entire value chain.
- The scheme adopts the **One District One Product (ODOP) approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products**.
- It will be implemented over a period of five years from 2020-21 to 2024-25.

➤ **Features:**

- **One District One Product (ODOP) Approach:**
 - ODOP for the scheme will **provide the framework for value chain development and alignment of support infrastructure**. There may be more than one cluster of ODOP products in one district.
 - There may be a cluster of ODOP products consisting of more than one adjacent district in a State.
 - The States would **identify food products for districts** keeping in view the existing clusters and availability of raw material.

- The **ODOP could be a perishable produce** based or cereal based or a food item widely produced in an area. E.g. mango, potato, pickle, millet based products, fisheries, poultry, etc.

○ **Other Focus Areas:**

- Waste to wealth products, minor forest products and **Aspirational Districts**.
- **Capacity building and research:** Academic and research institutions under MoFPI along with State Level Technical Institutions would be provided support for training of units, product development, appropriate packaging and machinery for micro units.

○ **Financial Support:**

- Existing individual micro food processing units desirous of **upgrading their units can avail credit-linked capital subsidy at 35%** of the eligible project cost with a maximum **ceiling of Rs.10 lakh per unit**.
- Support would be provided through **credit linked grants at 35% for development of common infrastructure** including common processing facility, lab, warehouse, etc. through FPOs/SHGs/cooperatives or state owned agencies or private enterprise.
- A **seed capital (initial funding) of Rs. 40,000-** per **Self Help Group (SHG)** member would be provided for working capital and purchase of small tools.

○ **Marketing and Branding Support:**

- Marketing and branding support would be **provided to groups of FPOs/SHGs/ Cooperatives or an SPV of micro food processing enterprises under the scheme, which are:**
 - Training relating to marketing.
 - Developing a **common brand and packaging** including standardisation.
 - **Marketing tie-up with national and regional retail chains**.
 - **Quality control to ensure product quality** meets the required standards.

➤ **Funding:**

- It is a **centrally sponsored scheme** with an outlay of Rs. 10,000 crore.
- The expenditure under the scheme would be shared in **60:40 ratio between Central and State Governments**, in 90:10 ratio with North Eastern

and Himalayan States, 60:40 ratio with UTs with legislature and 100% by Centre for other UTs.

➤ **Need:**

- The **unorganised food processing sector** comprising nearly 25 lakh units **contributes to 74% of employment** in the **food processing sector**.
- Nearly **66% of these units are located in rural areas** and about 80% of them are family-based enterprises supporting livelihood of rural households and minimising their migration to urban areas.
 - These units largely fall within the category of micro enterprises.
- The unorganised food processing sector faces a number of challenges which limit their performance and their growth. The challenges include **lack of access to modern technology & equipment, training, access institutional credit, lack of basic awareness on quality control of products; and lack of branding & marketing skills** etc.

➤ **Related Initiatives:**

- Pradhan Mantri Kisan Sampada Yojana.
- Agricultural and Processed Food Products Export Development Authority (APEDA).
- Minimum Support Prices (MSP).
- Commission for Agricultural Costs and Prices (CACPC).
- National Skill Development Corporation (NSDC).
- Codex Alimentarius Commission
- Draft Food Safety And Standards (Labelling And Display) Regulation.

National Agricultural Cooperative Marketing Federation of India Ltd

➤ **About:**

- It is an **apex organisation of marketing cooperatives for agricultural produce** in India.
- It was **founded on 2nd October 1958** and is registered under the **Multi-State Co-operative Societies Act, 2002**.
- NAFED is now **one of the largest procurement as well as marketing agencies** for agricultural products in India.

➤ **Objectives:**

- To **organise, promote and develop** marketing, processing and storage of agricultural, horticultural and forest produce.

- To **distribute agricultural machinery, implements and other inputs**, undertake inter-state, import and export trade, wholesale or retail as the case may be.
- To **act and assist for technical advice in agricultural production** for the promotion and the working of its members, partners, associates and cooperative marketing, processing and supply societies in India.

Income Criterion Remains for EWS Quota

Why in News

Recently, a government committee report told the **Supreme Court (SC)** that **“income” is a “feasible criterion” for defining the “Economical Weaker Sections” (EWS)**.

- In October 2021 **NEET aspirants** filed a petition asking how **‘Rs 8 lakh’ has been taken as an annual income criterion** to identify EWS for grant of 10% reservation in NEET medical admissions under the All India Quota (AIQ) category.

EWS Quota

- The **10% EWS quota was introduced under the 103rd Constitution (Amendment) Act, 2019** by amending Articles 15 and 16.
 - It inserted Article 15 (6) and Article 16 (6).
- It is for **economic reservation in jobs and admissions in education institutes** for Economically Weaker Sections (EWS).
- It was enacted to promote the welfare of the poor not covered by the 50% reservation policy for Scheduled Castes (SCs), Scheduled Tribes (STs) and Socially and Educationally Backward Classes (SEBC).
- It enables both Centre and the states to provide reservation to the EWS of society.
- The income criterion for identifying EWS was introduced by a notification of January 17, 2019 which further laid down other conditions for identifying EWS, such as the beneficiary’s family must not own or possess five acres of agricultural land, a residential flat of 1,000 square feet and above or residential plot of 100/200 square yards

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Key Points

- **About the Report:**
 - **8 Lakh is a fine Balance:**
 - The committee said the Rs 8 lakh criterion struck a “fine balance” between over-inclusion and inclusion errors and found it a “reasonable” **threshold to determine EWS in order to extend reservation** in admissions and jobs.
 - Considering that the currently effective income tax exemption limit is around Rs 8 lakh for individuals, the committee is of the view that the gross annual income limit of Rs 8 lakh for the entire family would be reasonable for inclusion into EWS.
 - **Rejected Notion of Emulation of OBC Criterion:**
 - It rejected the notion that the Centre had “mechanically adopted” Rs 8 lakh as a number because it was also used for the OBC (Other Backward Classes) creamy layer cut-off.
 - **Income Criterion more Stringent for EWS:**

- **Firstly**, EWS's criteria relates to the financial year prior to the year of application whereas the income criterion for the creamy layer in OBC category is applicable to gross annual income for three consecutive years.
- **Secondly**, in case of OBC creamy layer, **income from salaries, agriculture and traditional artisanal professions are excluded** from the consideration whereas the Rs 8 lakh criteria for EWS **includes all sources, including farming**.
- So, despite being the same cut-off number, their composition is different and hence, the two cannot be equated.
- **Uniform Income Threshold Backed by SC:**
 - The desirability of a uniform income-based threshold has been upheld by the Supreme Court, and it can be adopted across the country as a matter of economic and social policy.

➤ Recommendations:

- In case of admissions to educational institutions, **sudden adoption of new criteria inevitably and necessarily would delay the process** by several months which would have an inevitable cascading effect on all future admissions and educational activities/teaching/examinations which are bound under various statutory or judicial time prescriptions.
- EWS may, however exclude, irrespective of income, a person whose family has 5 acres of agricultural land and above. The **residential asset criteria may altogether be removed**.
- The committee altogether omitted the residential asset criteria but retained the five acre agricultural plot criteria.
- A **three-year feedback loop cycle may be used to monitor** the actual outcomes of these criteria and then be used to adjust them in future.
- **Data exchange and information technology should be used** more actively to verify income and assets and to improve targeting for EWS reservations and also across government schemes.
- The existing and ongoing criteria in every ongoing process where EWS reservation is available, **be continued and the criteria recommended in this report may be made applicable from next advertisement/admission cycle**.

State of India's Dams

Why in News

According to a new **Comptroller and Auditor General of India (CAG)** report, **Gandhi Sagar Dam** on **Chambal River (Madhya Pradesh)** is in need of immediate repair.

- **Absence of regular checks, non-functional instruments and choked drains** are the major problems plaguing the dam for years.

Gandhi Sagar Dam

- It is **one of the five water reservoirs** of national importance.
- Gandhi Sagar Dam was constructed in 1960 to provide drinking water to several districts of Rajasthan and generate 115 megawatts of electricity.
 - It has been breached several times in recent years, causing flooding in downstream areas.

Key Points

➤ About:

- India is **ranked third in the world** in terms of building large dams.
- Of the over 5,200 large dams built so far, about 1,100 large dams have already reached 50 years of age and some are older than 120 years.
 - The number of such dams will increase to 4,400 by 2050.
- This means that **80% of the nation's large dams** face the prospect of becoming obsolete as they will be 50 years to over 150 years old.
- The situation with hundreds of thousands of medium and minor dams is even more dangerous as their shelf life is even lower than that of large dams.
- **Examples:** Krishna Raja Sagar dam was built in 1931 and is now 90 years old. Similarly, Mettur dam was constructed in 1934 and is now 87 years old. Both these reservoirs are located in the water scarce **Cauvery river basin**.

➤ Issues with India's Aging Dam:

- **Built according to the Rainfall Pattern:**
 - Indian dams are very old and built according to the rainfall pattern of the past decades. **Erratic rainfall in recent years has left them vulnerable.**

But the government is equipping the dams with information systems like rainfall alerts, flood alerts, and preparing emergency action plans to avoid all sorts of mishaps.

○ **Decreasing Storage Capacity:**

- As dams age, **soil replaces the water in the reservoirs**. Therefore, the storage capacity cannot be claimed to be the same as it was in the 1900s and 1950s.
- The storage space in Indian reservoirs is receding at a rate faster than anticipated.

○ **Flawed Design:**

- Studies show that the **design of many of India's reservoirs is flawed**.
- Indian reservoirs are designed with a poor understanding of sedimentation science.
- The designs **underestimate the rate of siltation** and overestimate live storage capacity created.

○ **High Siltation Rates:**

- It refers both to the **increased concentration of suspended sediments and to the increased accumulation** (temporary or permanent) of fine sediments on bottoms where they are undesirable.

➤ **Consequences:**

- **Impacting Food Security:** When soil replaces the water in reservoirs, supply gets choked. In this case, the **cropped area may begin receiving less and less water as time progresses**.
 - As a result, the **net sown water area either shrink in size** or depends on rains or groundwater, which is over-exploited.
- **Impacting Farmers' Income:** As crop yield may get affected severely, it would **disrupt the farmer's income**.
 - Moreover, water is a crucial factor for crop yield and credit, crop insurance, and investment.
- **Increased Flooding:** The flawed siltation rates reinforce the argument that the designed flood cushion within several reservoirs across many river basins may have already depleted substantially, due to which floods have become more frequent downstream of dams.
- **Need of the Dam Safety:**
 - **To Safeguards People Lives:**

- Ageing dams can **serve as a cause of concern for people living in the areas nearby.**
- **Safeguarding Investment:**
 - Safety of dams is also important for **safeguarding the huge public investment in this critical physical infrastructure**, as also, for ensuring continuity of benefits derived from the dam projects and national water security.
- **Tackle India’s water crisis:**
 - Safety of dams is also **important in the emerging scenario of India’s water crisis**, linked with its growing population, as also the **climate change.**
- **Related Initiatives:**
 - **Dam Safety Bill, 2019: Rajya Sabha** has recently passed the **Dam Safety Bill, 2019.**
 - The bill provides for surveillance, inspection, operation and maintenance of the specified dam, for prevention of dam failure related disaster, and also makes provision for institutional mechanisms to ensure their safe functioning.
 - **Dam Rehabilitation and Improvement Project (DRIP Phase II):** To improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner.

Suspension of MLAs

Why in News

Recently, **12 MLAs** from the **Maharashtra legislative assembly** have gone to the **Supreme Court** against their **year-long suspension from the Assembly.**

- The Supreme Court has observed that the suspension for a full year is **prima facie unconstitutional** and **created a constitutional void for these constituencies.**

Key Points

- **About the Suspension of MLAs:**
 - The MLAs were suspended for **misbehaviour in the Assembly** pertaining to **disclosure of data regarding OBCs.**
 - The challenge to suspension relies mainly on grounds of denial of the **principles of natural justice**, and of **violation of laid-down procedure.**
 - The 12 MLAs have said they were not given an opportunity to present their case, and that the

suspension violated their fundamental right to equality before the law under **Article 14 of the Constitution.**

- **Rule 53 of Maharashtra Assembly:** It states that the **“Speaker may direct any member who refuses to obey his decision**, or whose conduct is, in his opinion, grossly disorderly, to withdraw immediately from the Assembly”.
- The member must **“absent himself during the remainder of the day’s meeting”.**
- Should any member be ordered to withdraw for a second time in the same session, the Speaker may direct the member to absent himself “for any period not longer than the remainder of the Session”.
- **Arguments by Maharashtra Assembly:**
 - **Article 212:** The House had acted within its **legislative competence**, under Article 212, and courts do not have jurisdiction to inquire into the proceedings of the legislature.
 - Article 212 (1) states that “The validity of any proceedings in the Legislature of a State shall not be called in question on the ground of any alleged irregularity of procedure”.
 - **Article 194:** The state has also referred to **Article 194 on the powers and privileges of the House**, and argued that any member who transgresses these privileges can be suspended through the inherent powers of the House.
 - It has denied that the power to suspend a member can be exercised only through Rule 53 of the Assembly.
- **Arguments By the Supreme Court:**
 - **Violation of Basic Structure of the Constitution:** The **basic structure of the Constitution** would be hit if the constituencies of the suspended MLAs remained unrepresented in the Assembly for a full year.
 - **Constitutional Requirement:** The bench referred to **Article 190 (4)** of the Constitution, which says, “If for a period of sixty days a member of a House of the Legislature of a State is without permission of the House absent from all meetings thereof, the House may declare his seat vacant.”
 - **Statutory Requirement:** Under **Section 151 (A) of The Representation of the People Act, 1951**, “a bye-election for filling any vacancy shall be held

within a period of six months from the date of the occurrence of the vacancy”.

- This means that barring exceptions specified under this section, no constituency can remain without a representative for more than six months.
- **Punishing Whole Constituency:** The Supreme Court said that the **one-year suspension was prima facie unconstitutional as it went beyond the six-month limit**, and amounted to “not punishing the member but **punishing the constituency as a whole**”.
- **Question of Supreme Court Intervention:** The Supreme Court is expected to rule on the question of whether the judiciary can intervene in the proceedings of the House.
 - Constitutional experts, however, say that the court has clarified in previous rulings that the judiciary can intervene in case of an **unconstitutional act done by the House**.

Provisions for Suspension of a Member of Parliament

- Rules 373, 374, and 374A of the **Rules of Procedure and Conduct of Business in Lok Sabha provide** for the withdrawal of a member whose conduct is “**grossly disorderly**”, and suspension of one who abuses the rules of the House or willfully obstructs its business.
- The maximum suspension as per these Rules is “**for five consecutive sittings or the remainder of the session, whichever is less**”.
- The maximum suspension for **Rajya Sabha under Rules 255 and 256** also does not exceed the remainder of the session.
- Similar Rules also are in place for **state legislative assemblies** and councils which prescribe a maximum suspension not exceeding the remainder of the session.

Challenges in India’s Rooftop Solar Program

Why in News

According to the data available on the website of the Union Ministry of New and Renewable Energy (MNRE), India could install just **6GW of Rooftop Solar (RTS) power** by the end of October 2021 under the **rooftop solar scheme**.

Although utility-scale solar has seen tremendous progress with leading players lining up for projects, tariffs spiralling down and **government agencies pushing mega projects, RTS has continued to remain neglected**.

Rooftop Solar

- Rooftop solar is a photovoltaic **system** that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.
- Rooftop mounted systems are **small compared to ground-mounted photovoltaic** power stations with capacities in the megawatt range.
- Rooftop PV systems on residential buildings typically feature a capacity of about 5 to 20 kilowatts (kW), while those mounted on commercial buildings often reach 100 kilowatts or more.

Key Points

- **Rooftop Solar Scheme:**
 - The major objective of the scheme is to generate **solar power through the installation of solar panels** on the roof of the houses.
 - Also, the Ministry of New and Renewable Energy has announced the implementation of **Phase 2 of the grid-connected Rooftop Solar Scheme**.
 - The aim of the scheme is to **achieve the final capacity of 40 GW** from Rooftop Solar Projects by 2022.
 - The 40GW goal is part of **India’s ambitious target to achieve 175GW renewable energy (RE) capacity** that includes 100GW of solar power by 2022.
 - According to a **report** released in September, 2021, the **lockdowns** slowed **renewable energy** installations in the country and the pace of such installations is lagging India’s 2022 target.
- **Challenges:**
 - **Flip-Flopping Policies:**
 - Although many companies began using solar energy, **flip-flopping (sudden real or apparent change of policy) policies remained a major hurdle**, especially when it came to power distribution companies (discoms).
 - Industry executives point out RTS was becoming attractive for several consumer segments when discoms and state governments started tightening regulations for the sector.

- India's **Goods and Service Tax (GST) Council** recently hiked the GST of many components of the solar system from 5% to 12%.
 - It will increase RTS's capital cost by 4-5%.
 - **Regulatory Framework:**
 - The growth of the RTS segment is highly **dependent on the regulatory framework**.
 - Slow growth has been primarily caused by the **absence or withdrawal of state-level policy support for the RTS segment**, especially for the business and industrial segment, which makes up the bulk of target consumers.
 - **Inconsistent Rules on Net and Gross Metering:**
 - Net metering regulations are one of the major obstacles facing the sector.
 - According to a report, Power ministry's new rules that **excludes rooftop solar systems above 10 kilowatts (kW) from net-metering** would stall adoption of larger installations in India affecting the country's rooftop solar target.
 - The **new rules mandate net-metering for rooftop solar projects up to 10 kW and gross metering for systems with loads above 10 kW**.
 - Net metering allows surplus power produced by RTS systems to be fed back into the grid.
 - Under the gross metering scheme, state power Distribution Companies (DISCOMS) compensate consumers with a fixed feed-in-tariff for the solar power supplied to the grid by the consumer.
 - **Low Financing:**
 - Commercial, institutions, and residential sectors are keen to install grid-connected RTS by getting bank loans.
 - The Union Ministry of New and Renewable Energy (MNRE) has advised banks to give loans for RTS at subsidised rates. However, **nationalised banks hardly offer loans to RTS**.
 - Thus, many private players have come into the market that offer loans for RTS at higher rates like 10-12%.
- **Scheme for Development of Ultra Mega Renewable Energy Power Parks:**
 - It is a scheme to develop **Ultra Mega Renewable Energy Power Parks (UMREPPs)** under the existing Solar Park Scheme.
 - **National Wind-Solar Hybrid Policy:**
 - The main objective of the National Wind-Solar Hybrid Policy, 2018 is to **provide a framework for promotion of large grid connected wind-solar PV hybrid systems** for optimal and efficient utilisation of wind and solar resources, transmission infrastructure and land.
 - **Atal Jyoti Yojana (AJAY):**
 - The AJAY scheme was launched in September 2016 for the **installation of solar street lighting (SSL) systems** in states with less than 50% households covered with grid power (as per Census 2011).
- International Solar Alliance:
- The ISA, is an Indian initiative that was launched on the side-lines of the Conference of the Parties (COP-21), with 121 solar resource rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
 - **One Sun, One World, One Grid (OSOWOG):**
 - It focuses on a framework for facilitating global cooperation, building a global ecosystem of interconnected renewable energy resources (mainly solar energy) that can be seamlessly shared.
 - **National Solar Mission :** It is a part of the National Action Plan on Climate Change.
 - **Suryamitra Skill Development Programme:** To provide skill training to rural youth in handling

Citizenship (Amendment) Act, 2019

Why in News

- Recently, the **Ministry of Home Affairs (MHA)** missed the **deadline of notifying rules under the Citizenship (Amendment) Act, 2019 (CAA)**.
- Amidst the concerns related to CAA and for better clarity, the two parliamentary committees (**committee on subordinate legislation**) in the Lok Sabha and the Rajya Sabha had sought MHA to frame the rules that will govern the CAA.

Schemes for Promoting Solar Energy

- Kisan Urja Suraksha evam Utthaan Mahabhiyan (**PM-KUSUM**):
 - The scheme covers **grid-connected Renewable Energy power plants (0.5 – 2 MW)/Solar water pumps/grid connected agriculture pumps**.

- If the government does not make **rules and regulations**, a law or parts of it will not get implemented. The Benami Transactions Act of 1988 is an example of a complete law remaining unimplemented in the absence of regulations.

Committee on Subordinate Legislation

- The Committee scrutinizes and reports to the House whether the powers to make regulations, rules, and sub-rules, by-laws etc. conferred by the Constitution or delegated by Parliament are being properly exercised by the executive within the scope of such delegation.
- This committee exists in **both houses**.
- It has **15 members**.
- A **Minister is not nominated** to this Committee.

Key Points

- **About CAA:**
 - The CAA provides citizenship on the basis of religion to six undocumented non-Muslim communities (**Hindus, Sikhs, Buddhists, Jains, Parsis and Christians**) from Pakistan, Afghanistan and Bangladesh who entered India on or before **31st December, 2014**.
 - It exempts the members of the six communities from any criminal case under the **Foreigners Act, 1946 and the Passport Act, 1920**.
 - The two Acts specify punishment for entering the country illegally and staying here on expired visas and permits.
- **Associated Concerns with CAA:**
 - **Targeting a Particular Community:** There are apprehensions that the CAA, followed by a country-wide compilation of the **National Register of Citizens (NRC)**, will benefit non-Muslims excluded from the proposed citizens' register, while excluded Muslims will have to prove their citizenship.
 - **Issues in the North-East:** It contradicts the **Assam Accord of 1985**, which states that illegal migrants, irrespective of religion, heading in from Bangladesh after 25th March, 1971, would be deported.
 - There are an estimated 20 million illegal Bangladeshi migrants in Assam and they have inalienably altered the demography of the state, besides putting a severe strain on the state's resources and economy.

Against Fundamental Rights: Critics argue that it is **violative of Article 14** of the Constitution (which guarantees the right to equality and is applicable to both the citizens and foreigners) and the **principle of secularism enshrined in the preamble of the constitution**.

- **Discriminatory in Nature:** India has several other refugees that include Tamils from Sri Lanka and Hindu **Rohingya from Myanmar**. They are not covered under the Act.
- **Difficulty in Administration:** It will be difficult for the government to differentiate between illegal migrants and those persecuted.
- **Hampering Bilateral Ties:** The Act throws the light on the religious oppression that has happened and is happening in these three countries and thus, may worsen our bilateral ties with them.

Draft National Air Sports Policy

Why in News

The **Ministry of Civil Aviation** has released a **draft National Air Sports Policy (NASP)** that will require entities providing these services and their equipment to be registered, as well as be liable for penalties.

Key Points

- **About:**
 - The policy proposes a **two-tier governance structure for air sports in the country**, which will include an apex governing body called the **Air Sports Federation of India (ASFI)** and associations for each air sport.
 - The ASFI will be an autonomous body under the Ministry of Civil Aviation and will represent India at the **Lausanne (Switzerland)-headquartered Fédération Aéronautique Internationale (FAI)** and other global platforms related to air sports.
 - It will provide governance over various aspects of air sports, including regulation, certification, competitions, awards and penalties, etc.
 - Each air sports association **will lay down its safety standards** for equipment, infrastructure, personnel and training, and specify the disciplinary actions to be taken in case of non-compliance. Inability to do so **may lead to penal action by the ASFI**.

- It is proposed that **popular air sports attractions** in the country such as Bir Billing in Himachal Pradesh, Gangtok in Sikkim, Hadapsar in Maharashtra and Vagamon in Kerala **can be declared as a “control zone” for air sports** in order to ensure the safety of other manned aircraft.
- **Activities Covered:**
 - It will cover activities like aerobatics, aeromodelling, amateur-built and experimental aircraft, ballooning, drones, gliding, hang gliding, paragliding, microlighting, paramotoring, skydiving, and vintage aircraft.
- **Objectives:**
 - The vision of the policy is to make India one of the **top air sports nations by 2030.**
 - It envisages to promote the country’s air sports sector, **by way of making it safe, affordable, accessible, enjoyable and sustainable.**
 - The policy seeks to **leverage India’s potential for air sports** and places a strong focus on ensuring international best practices in safety.
 - It aims to promote domestic design, development and manufacturing of air sports equipment under the Atmanirbhar Bharat Abhiyan; waive import duty on equipment for a few years; as well as request the GST Council to consider rationalising the GST rate on air sports equipment to 5% or less.
- **Significance:**
 - Schools and colleges **will be encouraged to include air sports in their curriculum** and their students will have the opportunity to participate in the FAI’s international competitions.
 - India has the potential to be among the leading nations in the world of air sports. It has a large geographical expanse, diverse topography and fair weather conditions.
 - It has a large population, especially the youth. It has a **growing culture for adventure sports and aviation.**
 - Other than the direct revenue from air sports activities, the multiplier benefits in terms of **growth of travel, tourism, infrastructure and local employment, especially in hilly areas** of the country, are several times greater.
 - Creation of air sports hubs across the country will also bring in air sports professionals and tourists from across the world.

Government Initiatives for Sports Development

Khelo India Scheme

National Sports Development Fund

- The National Sports Talent Contest (NSTC) Scheme.
- Sports Authority of India Training Centres Scheme (STC).
- Special Area Games (SAG) Scheme.

Target Olympic Podium Scheme (TOPS)

Khelo India Youth Games

Statehood Demand by Puducherry

Why in News

Recently, the Chief Minister of Puducherry has demanded Statehood for the **Union Territory (UT) of Puducherry.**

- The demand for Statehood is a long pending issue for Puducherry making it unable to exercise **any powers for creating employment potential** by inviting more industries to Puducherry and also **creating infrastructure facilities for tourism.**

Union Territory

- UT refers to those federal territories **that are too small to be independent or are too different** (economically, culturally and geographically) to be merged with the surrounding states or are financially weak or are politically unstable.
 - Due to these reasons, they **couldn’t survive as separate administrative units and needed to be administered by the Union Government.**
- UTs are administered by the President. In the UTs **Lieutenant Governors are appointed by the President of India** as their administrators.
 - However, Puducherry, Jammu and Kashmir and Delhi are the exception in this regard and have an elected legislature and government due to the status of partial statehood.
- At present, **India has 8 UTs**-- Delhi, Andaman and Nicobar, Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Jammu and Kashmir, Ladakh, Lakshadweep, and Puducherry.

Key Points

➤ **Background:**

- When the Constitution of India was adopted in **1949, the Indian federal structure** included:
 - **Part A:** Former British India provinces that had a Governor and a legislature.
 - **Part B:** The former Princely States that were governed by a Rajpramukh.
 - **Part C:** Chief Commissioners’ provinces and some princely states that were governed by Chief Commissioner.
 - **Part D:** Territory of Andaman and Nicobar Islands that was governed by a Lieutenant Governor who was appointed by the Central Government.
- After the **States Reorganisation Act of 1956**, Part C and Part D states were combined into a single category of ‘**Union Territory**’. The concept of the UT was added by the **Constitution (Seventh Amendment) Act, 1956**.

➤ **Reasons for Demand:**

- **Linguistic and cultural reasons** are the primary basis for creating new states in the country.
- Other factors are:
 - Competition for local resources.
 - Government negligence towards certain regions
 - Improper allocation of the resources,
 - Difference in culture, language, religion, etc.
 - The economy’s failure to create enough employment opportunities
 - Popular mobilization and the democratic political process is also one of the reasons.
 - ‘The sons of the soil’ sentiments.

➤ **Issues Arising Due to Creation of New States:**

- Different statehood may **lead to the hegemony of the dominant community/caste/tribe** over their power structures.
- This can lead to **emergence of intra-regional rivalries** among the sub-regions.
- The creation of new states may also lead to certain negative political consequences like **a small group of legislators could make or break a government at will**.
- There is also a possibility of increase in the **inter-State water, power and boundary disputes**.

- The division of states **would require huge funds for building new capitals and maintaining a large number of administrators** as was the case in the **division of Andhra Pradesh and Telangana**.
- Creation of smaller states only transfers power from the old state capitol to new state capital **without empowering already existing institutions** like Gram Panchayat, District Collector, etc. rather diffusion of development in the backward areas of the states.

➤ **Constitutional Provisions:**

- The Indian constitution **empowers the Union government to create new states out of existing states** or to merge one state with another. This process is called reorganisation of the states.
- As per **Article 2** of the Indian Constitution, Parliament may by law admit into the Union, or establish, new States on such terms and conditions.
- **As per Article 3** of the Indian Constitution, the **Union Government has the power to form a State, increase or decrease the size** of any State, and alter the boundaries or name of any State.

Puducherry

- Puducherry city is capital of Puducherry UT in southeastern India.
- **UT was formed in 1962 out of the four former colonies** of French India:
 - **Pondicherry** (now Puducherry) and **Karaikal** along India’s southeastern Coromandel Coast, **Yanam**, farther north along the eastern coast, and **Mahe**, lying on the western Malabar Coast, surrounded by Kerala state.

- It originated as a **French trade centre in 1674**, when it was purchased from a local ruler.
- The colony of Pondicherry was **the scene of frequent fighting between the French and Dutch in the late 17th century**, and it was occupied several times by British troops. However, it remained a **French colonial possession** until it was transferred to India in 1962.

Jal Jeevan Mission

Why in News

Recently, the **Ministry of Jal Shakti** has approved Drinking Water Supply schemes of Rs. 15,381.72 Crore for Madhya Pradesh under **Jal Jeevan Mission (JJM)**.

- **JJM** aims to ensure assured tap water supply or ‘**Har Ghar Jal**’ to all rural households by **2024**.

Key Points

- **About:**
 - **Launched in 2019**, it envisages **supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024**.
 - JJM looks to create a jan andolan for water, thereby making it everyone’s priority.
 - It **comes under Jal Shakti Ministry**.
- **Aims:**
 - The mission ensures **functionality of existing water supply systems and water connections**; water quality monitoring and testing as well as sustainable agriculture.
 - It also ensures conjunctive use of conserved water; drinking water source augmentation, drinking water supply system, **grey water treatment and its reuse**.
- **Features:**
 - JJM focuses on **integrated demand and supply-side management** of water at the local level.
 - Creation of **local infrastructure for source sustainability measures** as mandatory elements, like rainwater harvesting, groundwater recharge and management of household wastewater for reuse, is undertaken in convergence with other government programmes/schemes.
 - The Mission is **based on a community approach** to water and includes extensive Information,

Education and Communication as a key component of the mission.

➤ **Implementation:**

- Paani Samitis plan, implement, manage, operate and maintain village water supply systems.
 - These consist of 10-15 members, with at least 50% women members and other members from **Self-Help Groups, Accredited Social and Health Workers, Anganwadi teachers**, etc.
- The committees prepare a one-time village action plan, merging all available village resources. The plan is approved in a **Gram Sabha** before implementation.

➤ **Funding Pattern:**

- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

➤ **Progress So Far:**

- When the mission was launched, only 17% (32.3 million) of the country’s rural households had a tap water supply.
- Today, 7.80 Crore (41.14%) households have tap water supply. Goa, Telangana, Andaman & Nicobar Islands and Puducherry have achieved 100% household connection in rural areas and have become ‘**Har Ghar Jal**’.
- To complement the Jal Jeevan Mission (Rural), **Jal Jeevan Mission (Urban)** was announced in the Budget 2021-22.

Defence Research and Development Organisation

Why in News

Recently, **Defence Research and Development Organisation (DRDO)** has celebrated the **64th Foundation Day on 1st January, 2022**.

Key Points

- **About:**
 - DRDO is the **R&D (Research and Development) wing of the Ministry of Defence** with a vision to **empower India with cutting-edge defence technologies**.

- Its **pursuit of self-reliance** and successful indigenous development and production of strategic systems and platforms such as **Agni and Prithvi series of missiles; Light Combat Aircraft, Tejas; multi-barrel rocket launcher, Pinaka; air defence system, Akash; a wide range of radars and electronic warfare systems;** etc., have given quantum jump to **India's military might**, generating effective deterrence and providing crucial leverage.
- **Formation:**
 - It was **formed in 1958** from the amalgamation of the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).
 - DRDO is **a network of more than 50 laboratories** which are deeply engaged in developing defence technologies covering various disciplines, like aeronautics, armaments, electronics, combat vehicles, engineering systems etc.
- **Various Programmes of DRDO:**
 - **Integrated Guided-Missile Development Programme (IGMDP):**
 - It was one of Dr. APJ Abdul Kalam's major works to make Indian defence forces **self-sufficient in the field of missile technology.**
 - The **missiles developed under IGMDP are:** Prithvi, Agni, Trishul, Akash, Nag.
 - **Mobile Autonomous Robot System:**
 - MARS is a smart robust robot to handle land mines and Inert Explosive Devices (IEDs) which helps the Indian Armed Forces **to disarm them from far distances despite hostile surroundings.**
 - With some add-ons, this system can even be used to dig the ground for the object and defuse the Improvised Explosive Device by various methods.
 - **Highest Terrestrial Centre in Ladakh**
 - DRDO's centre in Ladakh is at 17,600 feet above sea level at Changla near Pangong lake which is intended to serve as **a natural cold storage unit for the preservation of natural and medicinal plants.**
- **Issues with DRDO:**
 - **Inadequate Budgetary Support:**
 - The Standing Committee on Defence during 2016-17, expressed concerns over the inadequate budgetary support for the ongoing projects of DRDO.
 - The committee noted that out of the total defence budget, the share of **DRDO was 5.79 % in 2011-12**, which reduced to 5.34 % in 2013-14.
 - **Inadequate Manpower:**
 - The DRDO also suffers **from inadequate manpower in critical areas** to the lack of proper synergy with the armed forces.
 - Cost escalation and long delays have damaged the reputation of DRDO.
 - **Big on Promise and Small on Delivery:**
 - DRDO is big on promise and small on delivery. There is no accountability. Nobody is taken to task for time and cost overruns.
 - In 2011, the Comptroller and Auditor General (CAG) put a serious question mark on DRDO's capabilities, citing the organisation has a **history of its projects suffering endemic time and cost overruns.**
 - **Obsolete equipments:**
 - DRDO is just tinkering with **World War II equipment** instead of working on cutting-edge technology.
- **Recent Developments:**
 - **Extreme Cold Weather Clothing System (ECWCS)**
 - **'Pralay'.**
 - **Controlled Aerial Delivery System.**
 - **Pinaka Extended Range (Pinaka-ER) Multiple Launch Rocket System (MLRS).**
 - **Supersonic Missile Assisted Torpedo System (SMART).**
 - **Advanced Chaff Technology.**
 - **Akash-NG & MPATGM.**

7 Years of UJALA Scheme

Why in News

Recently, the **Ministry of Power** has successfully completed seven years of distributing and selling LED lights under its flagship **UJALA (Unnat Jyoti by Affordable LEDs for All)** programme.

- The initiative **evolved into the world's largest zero subsidy domestic lighting programme** with more than 36.78 crore LEDs distributed across the country.

Key Points

➤ About:

- **Launched in 2015** and initially labeled as the **LED-based Domestic Efficient Lighting Programme (DELDP)**, it aims to **promote the efficient usage of energy for all** i.e., its consumption, savings and lighting.
- **Energy Efficiency Services Limited (EESL)**, a government company under the administrative control of the Ministry of Power, has been designated as the **implementing agency** for this programme.
- **Every domestic household having a metered connection** from their respective Electricity Distribution Company is eligible to get the LED bulbs under the Scheme.

➤ Achievements:

- UJALA succeeded in bringing down the retail price of **LED (Light-Emitting Diode) bulbs** from INR 300-350 per bulb to INR 70-80 per bulb.
- Apart from **making affordable energy accessible to all**, the programme also resulted in **massive energy savings**. As of today, 47,778 Million kWh per annum energy has been saved.
- Further, there has been 3,86 crore tonnes of reduction in CO₂ emissions.
- It provides **an impetus to the domestic lighting industry**. It encourages Make in India as domestic manufacturing of LED bulbs has increased from 1 lakh per month to 40 million per month.

Other Initiatives Related to Energy Efficiency/ Conservation

- **Gram Ujala:** Under the initiative, LED bulbs will be distributed at a highly subsidised rate at Rs. 10 across 2,579 villages in five states of Bihar, Uttar Pradesh, Telangana, Andhra Pradesh, and Karnataka.
- **Perform Achieve and Trade Scheme (PAT):** It is a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.
- **Standards and Labeling:** The scheme was launched in 2006 and is currently invoked for equipment/ appliances.
- **Energy Conservation Building Code (ECBC):** It was developed for new commercial buildings in 2007.
- **Street Lighting National Programme:** EESL

Green Energy Corridor

Why in News

Recently, the Cabinet Committee on Economic Affairs approved the scheme on **Green Energy Corridor (GEC) Phase-II for Intra-State Transmission System (InSTS)**.

Key Points

➤ GEC-1:

- Phase 1 of the Green Energy Corridor is already under implementation in Gujarat, Andhra Pradesh, Karnataka, Himachal Pradesh, Maharashtra, Madhya Pradesh, Tamil Nadu, and Rajasthan.
- It is working for the grid integration and power evacuation of about 24GW of Renewable Energy.

➤ GEC-2:

- It will **facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects** in seven States namely, Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh.
- The transmission systems **will be created over a period of five year from Financial Year 2021-22 to 2025-26**.
- It is targeted to be set up with a total estimated cost of Rs. 12, 031 crores, and the **Central Finance Assistance (CFA)** will be 33% of the project cost.
 - The CFA will help in **offsetting the Intra-State transmission charges** and thus keep the power costs down.

➤ Objectives:

- It aims at **synchronizing the electricity produced from renewable resources, such as wind and solar, with the conventional power stations in the grid**.
- It aims to achieve the **target of 450 GW installed RE capacity by 2030**.
- The objective of the GEC is to **evacuate approx. 20,000 MW of large-scale renewable power and improvement of the grid** in implementing states.

➤ Significance:

- It will contribute to the **long-term energy security of India and will promote ecologically sustainable growth** by reducing carbon footprint.
- It will facilitate in **generating large direct and indirect employment opportunities** for both the skilled and unskilled personnel.

Initiatives related to Green Energy

International Solar Alliance
 One Sun, One World, One Grid (OSOWOG).
 National Solar Mission
 Pradham Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM KUSUM)
 ➤ Atal Jyoti Yojana
 ➤ Suryamitra Skill Development Programme
 ➤ Solar Park Scheme and Grid Connected Solar Rooftop Scheme
 Rewa Solar Power Plant
 National Wind-Solar Hybrid Policy 2018.
 Hydrogen Based Fuel Cells Vehicles.

National Water Awards

Key Points

Recently, **Uttar Pradesh bagged the first prize** for efforts towards water conservation in the **National Water Awards (NWA) 2020** organised by the **Ministry of Jal Shakti**.

- Rajasthan and Tamil Nadu bagged the second and third prizes, respectively, **in the best state category**.

Key Points

➤ **About:**

- The awards are organised by the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti.
- The Jal Shakti Ministry had launched the first **‘National Water Award’ in 2018**.
- They **facilitate a good opportunity for the start-ups** as well as the leading organisations to engage with the senior policymakers on adopting the best water resources management practises in India.
- They **focus on the good work and efforts made by individuals and organisations across the country**, and the government’s vision for the path to **‘Jal Samridh Bharat’**.

➤ **Objectives:**

- To **motivate individuals/organisations who are doing commendable work** in the field of water resources conservation and management.

- **To create awareness among the people about the importance of water** and encourage them to adopt the best water usage practises.

➤ **Opportunities Provided:**

- **Start-ups, leading organisations and people** can engage, deliberate and strengthen existing partnerships on issues concerning water conservation and management activities.

➤ **Need for Water Conservation and Management:**

- Depletion of water resources due to overuse and decline in water supplies due to climate change is **pushing India closer to the tipping point of water scarcity**.
- Apart from these, several government policies especially **pertaining to agriculture resulted in over-exploitation of water**. These factors make India a **water-stressed economy**. In this context there is a need for water resource conservation and management.
- India’s current water requirement is estimated to be around 1,100 billion cubic metre per year, which is **projected to go up to 1,447 billion cubic metre by 2050**.
- India constitutes **16 % of the world’s population**, but the country has only **4% of the world’s freshwater resources**. With the changing weather patterns and recurring droughts, India is water stressed.
 According to the **Central Ground Water Board (CGWB)**, with **230 billion metre cube of groundwater drawn out each year** for irrigating agricultural lands in India, many parts of the country are experiencing rapid depletion of groundwater.
- The total estimated **groundwater depletion in India** is in the range of 122–199 billionmetrecube.

Related Initiatives

Mahatma Gandhi National Rural Employment Guarantee Act:
 Jal Kranti Abhiyan
 Catch the Rain: National Water Mission
 NITI Aayog’s Composite Water Management Index
 Jal Jeevan Mission
 Atal Bhujal Yojana
 Jal Shakti Abhiyan



Economic Scenario

Highlights

- Global Risks Report 2022
- India & Free Trade Agreements
- Fisheries Startup Grand Challenge
- Quarterly Employment Survey
- Developing Country Tag to China: WTO
- India to become Asia's 2nd largest Economy by 2030
- IRDAI Proposes a Separate Regulator for Healthcare Segment
- Semiconductor Shortage
- GST Compensation Extension
- Financial Resolution and Deposit Insurance Bill
- First Advance Estimates for GDP
- Sweet Revolution
- India's Appeal at WTO

Global Risks Report 2022

Why in News

Recently, the **Global Risks Report 2022**, an **annual report**, was **released by the World Economic Forum**. It tracks global risk perceptions among risk experts and world leaders in business, government, and civil society.

- It examines risks across **five categories: economic, environmental, geopolitical, societal, and technological**.

○ pandemic.

Key Points

- **Impact of Covid-19:** The societal and environmental risks have worsened the most since the start of the

“Social Inequality”, “Livelihood crises” and “Digital Inequality” are three of the

five risks seen as the most concerning threats to the world in the next two years.

- Apart from this, it has significantly contributed to “debt crises”, “cybersecurity failures”, “digital inequality” and “backlash against science”.
- **Global Economic Outlook:** It majorly perceived the short-term economic outlook to be volatile, fractured, or increasingly catastrophic.
 - The most serious challenge persisting from the pandemic is economic stagnation.
- **Environmental Risks:** “Extreme weather” and “climate action failure”—appear as top risks in the short-, medium-and long-term outlooks.
 - Governments, businesses, and societies are facing increasing pressure to transition to **net-zero** economies.
- **Geopolitical and Technological Risks:** In the longer- term horizon, geopolitical and technological risks are of concern too—including “gloeconomic confrontations”, “geopolitical resource contestation” and “cybersecurity failure”.
- **International Risks:** Artificial intelligence, space exploitation, cross-border cyberattacks and misinformation and migration and refugees were rated as the top areas of international concerns.
 - Growing insecurity in the forms of economic hardship, worsening impacts of climate change and political persecution will force millions to leave their homes in search of a better future.

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- The prospect of 70,000 satellite launches in coming decades, in addition to space tourism, raises risks of collisions and increasing debris in space, amid a lack of regulation.

World Economic Forum

➤ **About:**

- The World Economic Forum (WEF) is a Swiss nonprofit foundation established in 1971, based in Geneva, Switzerland.
- Recognized by the Swiss authorities as the international institution for public-private cooperation.

➤ **Mission:**

- 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.

➤ **Founder and Executive Chairman:** Klaus Schwab.

➤ **Some major reports published by WEF are:**

Energy Transition Index

Global Competitiveness Report

- Global IT Report
 - WEF along with INSEAD, and Cornell University publishes this report.

Global Gender Gap Report

- Global Risk Report.
- Global Travel and Tourism Report.

India & Free Trade Agreements

Why in News

Recently, the Commerce and Industry Ministry said that India is in dialogue with Israel for concluding a **Free Trade Agreement (FTA)**.

- The announcement coincides with the **30th anniversary** of the establishment of **diplomatic ties between the two countries**.

Key Points

➤ **Free Trade Agreement (FTA):**

- It is a **pact between two or more nations to reduce barriers to imports and exports** among them.
- Under a free trade policy, **goods and services can be bought and sold** across international borders with **little or no government tariffs, quotas, subsidies, or prohibitions** to inhibit their exchange.

The concept of free trade is the opposite of trade protectionism or economic isolationism.

➤ **India and FTAs:**

- After India opted out of the **Regional Comprehensive Economic Partnership (RCEP)** in November 2019, the 15-member FTA grouping that includes Japan, China and Australia, FTAs went into cold storage for India.
- But in May 2021 came the announcement that **India-European Union** talks, which had stalled in 2013, would be resumed.
 - Both sides are **now engaged in internal preparations** to take these various strands of work forward.
- **Bilateral free trade agreements** of India are being negotiated with the **United Arab Emirates, the United Kingdom, Australia and Canada**.
- The agreement with the **UAE was ‘close to finalisation’** while the FTA with Australia was at a ‘very advanced stage.’

➤ **Other Important Trade Agreements of India:**

- **Comprehensive Economic Cooperation and Partnership Agreement (CECPA)** between India and Mauritius.
- **South Asia Preferential Trading Agreement (SAPTA):** It is for promoting trade amongst the member countries came into effect in 1995.
- **South Asian Free Trade Area (SAFTA):** A Free Trade Agreement confined to goods, but excluding all services like information technology. Agreement was signed to reduce customs duties of all traded goods to zero by the year 2016.
- **Asia Pacific Trade Agreement (APTA):**
 - Previously the Bangkok Agreement, it’s a **preferential tariff arrangement** that aimed at promoting intra-regional trade through the exchange of mutually agreed concessions by member countries.

➤ **Issues in India’s Foreign Trade Policy:**

- **Poor Manufacturing Sector:** In the recent period, manufacturing holds a share of 14% in India’s **Gross Domestic Product (GDP)**.
 - For **advanced and developed nations** like Germany, the US, South Korea and Japan, the comparable figures are 19%, 11%, 25% and 21%, respectively.

- For **emerging and developing countries** like China, Turkey, Indonesia, Russia, Brazil, the corresponding figures are 27%, 19%, 20%, 13%, 9%, respectively, and for low income countries the share is 8%.
- **Unfavourable FTA's:** In the past decade, India signed FTAs with the **Association of Southeast Asian Nations (ASEAN)**, the Republic of Korea, Japan, and Malaysia.
 - However, it is largely believed that India's trade partners have gained more from these agreements than India.
- **Protectionism:** The **Atmanirbhar Bharat campaign** has exacerbated the view that India is increasingly becoming a protectionist closed market economy.

Indo-Israel Relations

➤ Historical Ties:

- The strategic cooperation between the two countries began during the Sino-India War of 1962.
- In 1965, Israel supplied M-58 160-mm mortar ammunition to India in the war against Pakistan
- It was one of the few countries that chose not to condemn India's Pokhran nuclear tests in 1998.

➤ Economic:

- India is **Israel's third-largest trade partner in Asia** and seventh largest globally.
- Both countries currently have USD 4.14 billion of trade (April 2020 – February 2021), a figure that doesn't include the **defence trade which has been increasing.**
- Israeli companies have invested in **India in energy, renewable energy telecom, real estate, water technologies**, and are focusing on setting up Research & Development centres or production units in India.
- The first recipients of grants from the Israel-India Industrial R&D and Technological Innovation Fund (I4F) were announced in July 2018, including companies working to better the lives of Indians and Israelis through efficient water use, improving communications infrastructure, solar energy use, and life-changing surgeries.

➤ Defence:

- Israel has been **among the top four arms suppliers to India** for almost two decades now, notching military sales worth around USD 1 billion every year.
- The Indian armed forces have inducted a wide array of Israeli weapon systems over the years, which range from Phalcon AWACS (airborne warning and control systems) and Heron, Searcher- II and Harop drones to Barak anti-missile defence systems and Spyder quick-reaction anti-aircraft missile systems.
- At the **15th Joint Working Group (JWG) meeting** on Bilateral Defence Cooperation between India and Israel, both countries agreed to form a Task Force to formulate a comprehensive Ten-Year Roadmap to identify new areas of cooperation.

➤ Agriculture:

- India and Israel have signed "a three-year work program agreement" for development in agriculture cooperation.

➤ Covid-19 Response:

- In 2020, an Israeli team arrived in India with a multi-pronged mission, codenamed Operation Breathing Space to work with Indian authorities on the Covid-19 response.

Fisheries Startup Grand Challenge

Why in News

Recently, the Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying In association with Startup India, the Ministry of Commerce and Industry inaugurated the **Fisheries Startup Grand Challenge**.

Key Points

➤ **About:**

- The challenge has been **launched with an objective to provide a platform to start-ups** within the country to showcase their innovative solutions within the Fisheries and Aquaculture sector.
- The **solutions should be devised for resolving issues across the fisheries value chain** for increasing aquaculture productivity from the **current national average of 3 tons to 5 tons per hectare**, doubling exports earnings and reducing post-harvest losses from 25% to 10%.
- The challenge is **expected to foster start-up culture within the sector and to establish a strong foundation of the entrepreneurial model**, the Department of Fisheries has earmarked funds to the tune of Rs. 3.44 Crore for the challenge.

➤ **Related Initiatives:**

- Establishment of **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)** during 2018-19.
- **Pradhan Mantri Matsya Sampada Yojana:** The programme aims to achieve 22 million tonnes of fish production by 2024-25. Also, it is expected to create employment opportunities for 55 lakh people.
- **Blue Revolution:** Focuses on creating an enabling environment for integrated and holistic development and management of fisheries for the socio-economic development of the fishers and fish farmers.
- **Extension of Kisan Credit Card (KCC)** facilities to fishers and fish farmers to help them in meeting their working capital needs.
- **Marine Products Export Development Authority: MPEDA** is a nodal coordinating, state-owned agency engaged in fishery production and allied activities.

- **Marine Fisheries Bill:** The Bill proposes to only grant licenses to vessels registered under the Merchant Shipping Act, 1958, to fish in the **Exclusive Economic Zone (EEZ)**.
- **Seaweed Park:** Multipurpose **seaweed** park in Tamil Nadu would be the center of production for quality seaweed-based products, developed on a hub and spoke model.

Significance of the Fisheries Sector

➤ **About:**

- The fisheries sector plays a **vital role in economic and overall development of the country**. Referred to as the “sunrise sector”, the fisheries sector is poised to bring in immense potential through equitable and inclusive growth.
- India is the **second major producer of fish through aquaculture in the world**.
- India is the **4th largest exporter of fish** in the world as it contributes **7.7% to the global fish production**.
- Currently, this sector **provides livelihood to more than 2.8 crore people** within the country. Nevertheless, this is a sector with untapped potential.
 - The Economic Survey of India, 2019-20 estimated that, only 58% of the country’s inland potential has been tapped so far.

➤ **Unrealised Potential:**

- The unrealised potential of the fisheries sector **offers varied opportunities for bringing in scalable business solutions and maximizing the benefits** for the fishermen and fish farmers.
- Fisheries is **one of the fastest growing sectors amongst the primary producing sectors**.
- However, in order to realize the true potential of the fisheries sector, **technological breakthroughs are required** for enhancing production, productivity and efficiency of the fisheries’ value chain.

Quarterly Employment Survey

Why in News

The **Labour Bureau, Ministry of Labour and Employment** released the results of the **Quarterly Employment Survey (QES)** for the **Second Quarter of 2021 (July-September)**.

- Total employment generated by nine select sectors stood at 3.10 crore in the July-September 2021 quarter, which is 2 lakh more than that of the April-June period.

Key Points

- **About QES:**
 - **About:** The Quarterly Employment Survey (QES) is **part of the All-India Quarterly Establishment-based Employment Survey (AQEES)**.
 - It covers establishments employing 10 or more workers in the organised segment in 9 sectors.
 - These **nine sectors** are Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation and Restaurant, IT/BPO and Financial Services.
 - These sectors account for a majority of the total employment in non-farm establishments.
 - **Objective:** To enable the government to frame a “sound national policy on employment.”
 - **International Commitment:** The release of this survey emanates from India’s ratification of the **International Labour Organization’s (ILO) Employment Policy Convention, 1964**.
 - This requires the ratifying countries to implement “an active policy designed to promote full, productive and freely chosen employment.”
 - India does not have a **National Employment Policy (NEP)** yet.

Note

- **QES vs PLFS:** While the QES provides a demand-side picture, the National Sample Survey or Periodic Labour Force Survey (PLFS) gives the supply side picture of the labour market.
 - Also, PLFS is conducted by the National Statistical Organization (NSO), MoSPI (Ministry of Statistics and Programme Implementation).

- **All-India Quarterly Establishment-based Employment Survey (AQEES):**
 - The AQEES has been taken up by the Labour Bureau to **provide frequent (quarterly) updates about the employment and related variables of establishments, in both organised and unorganised segments** of nine selected sectors.
 - These sectors altogether account for a majority of the total employment in the non-farm establishments.

- There are two components under AQEES:
 - Quarterly Employment Survey (QES) and
 - Area Frame Establishment Survey (AFES).
- QES would provide the employment estimates for the establishments employing 10 or more workers.
- AFES covers the unorganised segment (with less than 10 workers) through a sample survey.

Developing Country Tag to China: WTO

Why in News

- Recently, China got the ‘developing country’ status at the **World Trade Organisation (WTO)**.
- It has become a **contentious issue with a number of countries raising concerns** against the decision.
 - Earlier in 2019, the **South Korean Government decided not to seek any special treatment** as a developing country from future negotiations at the WTO.

Key Points

- **About:**
 - The **WTO has not defined ‘developed’ and ‘developing’ countries** and therefore member countries are free to announce whether they are ‘developed’ or ‘developing’.
 - However, **other members can challenge the decision** of a member to make use of provisions available to developing countries.

- The WTO lacks a proper definition of a developing nation although two-thirds of its 164 members classify themselves as developing.
- As WTO members can declare themselves developing nations, this provides an advantage to nations like China to expand their dominance in global trade even while classifying themselves as developing and thereby obtaining **Special and Differentiated Treatment (S&DT)**.
- **China's Case:**
 - Given the rise in China's per capita income to become an upper middle-income country according to the World Bank and the country's alleged use of unfair trade practises, a number of nations have called on China to either refrain from seeking benefits available to developing countries or forgo its classification as a developing country altogether.
 - Some of China's unfair trade practises include preferential treatment for state enterprises, data restrictions and inadequate enforcement of intellectual property rights.
 - Prima facie, it does appear anomalous that the world's second-largest economy—which accounted for a quarter of global **Gross Domestic Product (GDP)** growth in 2021—considers itself as the largest developing country.
- **World Bank's Classification of Countries**
 - The World Bank assigns the world's economies to **four income groups**—low, lower-middle, upper-middle, and high-income countries.
 - The classifications are **updated each year on 1st July** and are based on **Gross National Income (GNI)** per capita in current USD of the previous year.
 - GNI is the total amount of money earned by a nation's people and businesses.
 - In its latest classification (2020-21), the World Bank has classified **India** as a **lower-middle-income country**.
- **Concerns Raised:**
 - China's status as a 'developing country' at the WTO has become a contentious issue with a number of countries raising concerns **over the upper middle-income nation deriving benefits reserved for developing countries under WTO norms**.
 - One way for China to show leadership would be **by refraining from claiming benefits that would correspond to a developing country** in ongoing negotiations," the **European Union (EU)** said in a statement on the latest review of China's Trade Policy conducted in October 2021. The **United States Trade Representative** also released a similar statement.
 - Australia too had **recommended that China relinquish "its access to S&DT"**. China's per capita income was USD 10,435 in 2020 according to the **World Bank** while that of **India was USD 1,928**.
 - India has also **questioned China's claim that it was a developing country**, since, going by the **World Bank's** definition, its per capita income belongs to that of an upper middle income country.
 - Moreover, **concerns have been raised over the Least-Developed Country (LDC)**, with Bangladesh potentially losing this tag after surpassing India in terms of GDP per capita.
- **Benefits of Developing Country Status:**
 - Certain WTO agreements give developing countries special rights through S&DT provisions, which **can grant developing countries longer timeframes to implement the agreements and even commitments** to raise trading opportunities for such countries.
 - S&DT allows developing and poor countries certain benefits, including **longer transition periods for implementing commitments**.
 - It also provides measures to **increase trading opportunities for developing countries**, provisions requiring all WTO members to **safeguard the trade interests of developing countries**, support to help developing countries **build the capacity to carry out WTO work**, handle disputes, and implement technical standards, and provisions related to LDC Members.
 - WTO **pacts are often aimed at reduction in government support to certain industries over time** and set more lenient targets for developing nations and grant them more time to achieve these targets compared to developed ones.
 - The classification also **allows other countries to offer preferential treatment**.

Note

- At a time when developed nations are pushing WTO-reforms that would dilute S&DT provisions, **India has indicated that it will fight for preserving S&DT for the developing world.**
- Given **India has earlier said it is open to discussions on which country should be considered developing,** it must take the lead in this regard.
- **China’s Stand:**
 - China has **consistently maintained that it is the “world’s largest developing economy”** but has recently indicated that **it may be willing to forego many benefits of being a developing country.**
 - It has reportedly informed that **the country may forgo all exemptions available to developing countries in negotiations** aimed at cutting fishing subsidies to curb overfishing.

India to become Asia’s 2nd largest Economy by 2030

Why in News

According to the Information Handling Services (IHS) Markit report, **India is likely to overtake Japan as Asia’s second-largest economy by 2030.**

- Currently, **India is the sixth-largest economy,** behind the U.S., China, Japan, Germany and the U.K.
- IHS Markit is a **global leader in information, analytics and solutions** for the major industries and markets that drive economies worldwide.

Note: The size of a nation’s overall economy is typically **measured by its** Gross Domestic Product, or GDP, which is the value of all final goods and services produced within a country in a given year.

Key Points

- **GDP Projection:**
 - In terms of value, the **size of the Indian economy stood at USD 2.7 trillion** in 2021, which is projected to grow to **USD 8.4 trillion by 2030.**
 - This boom is enough to overtake Japan, making India the second largest economy in the **Asia-Pacific region** by 2030.

India’s growth rate is projected to be 8.2% in 2021-22, compared to a decline of 7.3% in the previous fiscal.

- However, the momentum of the current **financial year (FY)** will continue in 2022-23 as well and India will achieve 6.7% growth.
- **Role of Different Sectors:**
 - The **manufacturing, infrastructure and services sector** along with the **e-commerce sector** have a big role to play in boosting India’s growth rate.
 - Not only this, due to **increasing digitization, the e-commerce market** will become bigger in the coming times.
 - According to a report, 1.1 billion Indians will have internet by 2030, in 2020 this number was 500 million.
- **Growth Rate:**
 - Overall the future of the Indian economy looks strong and stable, making it the fastest growing country in the country for the next decade.
 - In the long term also, **technological developments like infrastructure sector and startups** will play a big role in sustaining India’s rapid growth rate.
 - Being one of the **world’s fastest-growing economies will make India one of the most important long-term growth markets for multinationals** in a wide range of industries, including manufacturing industries such as autos, electronics and chemicals, and services industries such as banking, insurance, asset management, healthcare and information technology.
- **Middle Class Support:**
 - India gets the most help from its vast middle class, which is its main consumer force.
 - Indian consumer spending will also double in the next decade. This could increase from USD1.5 trillion in 2020 to USD3 trillion in 2030.
- **FDI Inflows:**
 - The large increase in **Foreign Direct Investment (FDI)** inflows to India that has been evident over the past five years is also continuing with strong momentum in 2020 and 2021.
 - It is being **boosted by large inflows of investments from global technology Multinational Companies (MNCs)** such as Google and Facebook that are attracted to India’s large domestic consumer market.

➤ **Current State of India's Economy:**

- India's **GDP** at current prices stood at USD 694.93 billion in the first quarter of FY22, as per the provisional estimates of gross domestic product for the first quarter of 2021-22.
- **India is the fourth-largest unicorn base** in the world with over 21 unicorns collectively valued at USD 73.2 billion.

Government Initiatives for Boosting Economy

- 'Make in India' and the National Policy on Electronics 2019 (NPE 2019)
- Production-linked Incentive Scheme (PLI) in Various Sectors

Major Telecom Sector Reforms:

- Major telecom sector reforms have been approved in September 2021, which are expected to **boost employment, growth, competition, and consumer interests.**
- The rationalisation of adjusted gross revenue, the **rationalisation of bank guarantees (BGs), and the encouragement of spectrum sharing** are among the key reforms.

➤ **Deep Ocean Mission:**

- The Indian government approved the Deep Ocean Mission (DOM) in August 2021, with a budget outlay of Rs. 4,077 crore (USD 553.82 million) over the next five years.

➤ **Focus on Renewable Sources:**

- In order to generate energy, **India is focusing on renewable sources.** It plans to achieve 40% of its energy from non-fossil sources by 2030, up from 30% currently, and to increase its renewable energy capacity from to 175 gigatonnes (GW) by 2022.
- In line with this, India and the United Kingdom

regulator for the healthcare segment or it must be allowed to regulate hospitals.

- It has been noticed that the **rate of inflation of hospital charges at present is around 10-15%** and **tariffs are being changed on a regular basis.**

Key Points

➤ **About (Issues Related to Present Tariff Structure of Hospitals):**

○ **Varying Tariffs:**

- Hospitals keep changing tariffs on a regular basis. There is no body to regulate them on tariff structure and grading.
- When Covid hit the country last year, patients were charged excessively by some hospitals.

○ **Cost to Health Insurance Businesses:**

- If insurers continue to pay whatever the hospitals are demanding, the health insurance business will be in poor health in the long run. Already, the industry is experiencing a high number of claims.

○ **Individual Hospital Empanelment Process.**

- At present, health care schemes and private insurance have individual hospital empanelment processes, which replicates various activities and contributes to inefficiency and duplication of processes.

○ **No Infrastructure to Regulate Hospitals:**

- IRDAI currently doesn't have the infrastructure to regulate hospitals. As healthcare is a state subject, it's going to be a tough proposition for IRDAI to regulate the hospitals.
 - Insurance Regulatory and Development Authority of India (IRDAI), is a statutory body formed under an Act of Parliament, i.e., Insurance Regulatory and Development Authority Act, 1999 (IRDAI Act 1999) for overall supervision and development of the Insurance sector in India.

➤ **Suggestions:**

- Even with increasing penetration, there will be a need to factor general and medical inflation and given that medical inflation operates significantly higher than **CPI (Consumer Price Index) inflation**, a correction cycle from a pricing standpoint will be needed.

IRDAI Proposes a Separate Regulator for Healthcare Segment

Why in News

With a view to make a common tariff structure for hospitals, the **Insurance Regulatory and Development**

- IRDAI has proposed a **unique common hospital registry, empanelment process, grading of hospitals and package cost harmonisation** to promote the standardisation and effective utilisation of health care infrastructure under the **insurance programme**.
- It is recommended to have a **common empanelment portal which can be utilised by all the schemes/ insurance companies** with standardised empanelment criteria (and) will be hugely beneficial with special focus on standard safety and quality parameters.

Health Insurance

➤ About Healthcare:

- Healthcare has become **one of the largest sectors in India in terms of revenue and employment**. Booming population, rising income levels, growth in infrastructure, increased awareness, insurance policies and India's emergence as a hub of medical tourism and clinical trials have contributed to the development of the health care sector in India.
- Since the needs of this sector are increasing, to provide up to date medical facilities is vital. Government funded health insurance enables the poor in India to benefit from timely care without the burden of **out of pocket expenditure**.

➤ Significance of Health Insurance:

- It is a mechanism of **pooling the high level of Out of Pocket expenditure (OOPE)** in India to provide greater financial protection against health shocks.
- Pre-payment through health insurance emerges as an important **tool for risk-pooling and safeguarding against catastrophic (and often impoverishing) expenditure** from health shocks.
- Moreover, **pre-paid pooled funds can also improve the efficiency** of healthcare provision.

➤ Issues related to Health Insurance:

- **Life Status is unevenly Distributed:**
 - There has been a significant increase in life expectancy of people **from 35 years to 65 years** since Independence. But the status of life is **unevenly distributed in different parts of the country**. The health problems in India are still a cause of great concern.
- **Low Government expenditure :**
 - Low Government expenditure on health has constrained the capacity and quality of healthcare services in the public sector.

- It diverts the majority of individuals – about two-thirds – to seek treatment in the costlier private sector.

○ Significant Population is missed:

- At least 30% of the population, or 40 crore individuals are devoid of any financial protection for health.

➤ Related Government Schemes:

- **Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):** It offers a sum insured of Rs. 5 lakh per family for secondary care (which doesn't involve a super specialist) as well as tertiary care (which involves a super specialist).

Semiconductor Shortage

Why in News

Recently, there has been an abrupt and cascading **shortage of semiconductors** worldwide.

Key Points

➤ About Semiconductors:

- Semiconductors are materials which have a **conductivity between conductors (generally metals) and nonconductors or insulators** (such as most ceramics). Semiconductors can be pure elements, such as silicon or germanium, or compounds such as gallium arsenide or cadmium selenide.
- **Conductivity** is the measure of the ease at which an electric charge or heat can pass through a material.
- They are **also known as integrated circuits or more commonly just chips**, they may be the tiniest yet most exacting product ever manufactured on a global scale.

- It's an **electric circuit with many components** such as transistors and wiring formed on a semiconductor wafer. An electronic device comprising numerous of these components is called Integrated Circuit (IC), and can be found in electronic devices such as computers, smartphones, appliances, gaming hardware and medical equipment.
 - These devices find widespread use in almost all industries, especially in the automobile industry.
- Electronic parts and components today account for 40% of the cost of a new internal combustion engine car, up from less than 20% two decades ago.
 - Semiconductor Chips **account for a bulk of this increase.**
- **Reasons for the Shortage:**
 - **Work from Home due to Covid: Lockdowns** increased the growth in sales of laptops to the highest in a decade.
 - Home networking gear, webcams and monitors were snapped up as office work moved out of the office, and laptops were in demand for a while as schools shut.
 - **False Forecasts:** Automakers that cut back drastically early in the **pandemic** underestimated how quickly car sales would rebound. They rushed to re-up orders late in 2020, only to get turned away because chipmakers were stretched supplying computing and smartphone giants.
 - **Stockpiling:** Computer makers began warning about tight supplies early in 2020. Then around the middle of that year, Huawei Technologies Co. — the Chinese smartphone maker that also dominates the global market for 5G networking gear — **began building up inventory to ensure it could survive US sanctions** that were set to cut it off from its primary suppliers.
 - Other companies followed suit, hoping to grab share from Huawei, and China's chip imports climbed to almost USD 380 billion in 2020, up from about USD 330 billion the previous year.
- **Disasters:** Production plants in the US were affected by the cold and in Japan by wildfire.
- **Difficult Production:** Manufacturing advanced logic chips **requires extraordinary precision, along with huge long-term bets in a field subject to rapid change.**
 - Plants cost billions of dollars to build and equip, and they have to run flat-out 24/7 to recoup the investment.
- **Impact:**
 - Countless **industries have been affected** as global demand for semiconductor chips continues to outstrip supply.
 - Chip shortages are expected to **wipe out USD 210 billion of sales for carmakers** this year, with production of 7.7 million vehicles lost.
 - The semiconductor shortage will **severely disrupt the supply chain** and will constrain the production of many electronic equipment types.
 - The chip shortage **directly impacts consumers** as prices of everyday appliances and electronic goods — from TV to smartphones — have increased due to the global supply chain disruption.

GST Compensation Extension

Why in News

Many states have demanded that the **GST compensation cess regime** be extended for another five years. Also, states have demanded that the share of the Union government in the **centrally-sponsored schemes** should be raised.

- These demands are made as **Covid-19 pandemic** has impacted their revenues.
- The provision for GST compensation is **going to end in June 2022.**

Key Points

➤ About:

- **GST Taxation:** The GST became applicable from 1st July 2017 after the enactment of the **101st Constitution Amendment Act, 2016**.
 - With GST, a large number of central and state indirect taxes merged into a single tax.
- **GST Compensation:** In theory the GST should generate as much revenue as the previous tax regime. However, the new tax regime is taxed on consumption and not manufacturing.
 - This means that tax won't be levied at the place of production which also means manufacturing states would lose out and hence several states strongly opposed the idea of GST.
 - It was to assuage these states that the idea of compensation was mooted.
 - The Centre promised compensation to the States for any shortfall in tax revenue due to GST implementation for a period of five years.
 - This promise convinced a large number of reluctant States to sign on to the new indirect tax regime.

➤ Compensation Cess:

- States are guaranteed compensation for any revenue shortfall below 14% growth (base year 2015-16) for the first five years ending 2022.
 - **GST compensation is paid out of Compensation Cess** every two months by the Centre to states.
 - The compensation cess was specified by the **GST (Compensation to States) Act, 2017**.
 - All the taxpayers, except those who export specific notified goods and those who have opted for GST composition scheme, are liable to collect and remit the GST compensation cess to the central government.
- **Compensation Cess Fund:** The GST Act states that the cess collected and the amount as may be recommended by the GST Council would be credited to the fund.

➤ Concerns of States:

- **Revenue Shortfall:** The state's GST revenue gap in 2020-21 is expected to be about Rs. 3 lakh crore, while cess collections are only projected to reach Rs. 65,000 crore, leaving a shortfall of Rs. 2.35 lakh crore.

- **Economic Slowdown:** At a time when growth is faltering, the delays in paying compensation to states as guaranteed by the GST Act will make it more difficult for them to meet their own finances.
- **Decreasing Centre Devolution:** Most states are of the view that the Centre's share in centrally-sponsored schemes has gradually reduced and states' share has increased.
 - Due to this, their most significant demand is increasing share in centrally-sponsored schemes.

Goods and Services Tax

- GST was introduced through the **101st Constitution Amendment Act, 2016**.
- It is one of the **biggest indirect tax reforms** in the country.
 - It was introduced with the slogan of '**One Nation One Tax**'.
- The GST has subsumed indirect taxes like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.

- It is essentially a **consumption tax** and is levied at the final consumption point.
- This has helped **mitigate the double taxation, cascading effect of taxes, multiplicity of taxes, classification issues** etc., and has led to a common national market.

- The GST that a merchant pays to procure goods or services (i.e. on inputs) can be set off later against the tax applicable on supply of final goods and services.
 - The set off tax is called **input tax credit**.
- The GST avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.
- **Tax Structure under GST:**
 - Central GST to cover Excise duty, Service tax etc,
 - State GST to cover VAT, luxury tax etc.
 - Integrated GST (IGST) to cover **inter-state trade**.
 - IGST per se is not a tax but a system to coordinate state and union taxes.
 - It has a 4-tier tax structure for all goods and services under the slabs- **5%, 12%, 18% and 28%**.

Financial Resolution and Deposit Insurance Bill

Why in News

Recently, the Finance Ministry has sought views of the **Reserve Bank of India (RBI)** on drafting a modified version of the **Financial Resolution and Deposit Insurance (FRDI) Bill** in order to deal with **Insolvency of Firms** in the financial sector.

In 2018, the Government had **withdrawn the FRDI Bill 2017** amid concerns over the security of bank deposits.

Key Points

- **Background:**
 - The FRDI Bill, 2017 was **meant to address the issue of insolvency of firms** in the financial sector.
 - If a bank, NBFC, an insurance company, a pension fund or a mutual fund-run by an asset management company fails, **a quick solution is available to either sell that firm, merge it with another firm, or close it down**, with the least disruption to the system and other stakeholders.
 - **It aimed to limit the fallout of the failure of institutions** like banks, insurance companies, non-banking financial companies, pension funds and stock exchanges.
 - The Bill was withdrawn due to concerns among the public over safety of deposits despite assurances by the Central government.
 - A key point of criticism was the **so-called bail-in clause in the Bill** that said in case of insolvency

in a bank, the depositors will have to **bear a part of the cost of the resolution by a corresponding reduction in their claims**.

➤ **About the New Bill:**

- The bill will provide for establishing a **resolution authority, which would have powers to undertake prompt resolution** for banks, insurance companies and systemically important financial firms.
- The legislation **will also provide for an insurance of up to Rs 5 lakh** for bank depositors, which already has a legal backing.
- **Need for legislative backing:**
 - Even as the RBI has come out with a **Prompt Corrective Action** framework for **NBFCs (Non Banking Financial Companies)**, a need is being felt for a legislative backing for the entire financial sector.
 - The current resolution regime is **especially inappropriate for private sector financial firms** in the light of significant expansion and many of these acquiring systemically important status in India.
 - The **provision of a single agency for resolution of financial firms is in line with the recommendations** made by the Financial Sector Legislative Reforms Commission (FSLRC), 2011 headed by Justice B N Srikrishna.
 - The Insolvency and Bankruptcy Code, 2021 along with the FRDI bill would **have streamlined the procedure for the winding up or revival of an ailing financial sector firm**.

Insolvency and Bankruptcy Code

- It is a reform enacted in 2016. It amalgamates various laws relating to the insolvency resolution of business firms.
- It lays down clear-cut and faster insolvency proceedings to help creditors, such as banks, recover dues and prevent bad loans, a key drag on the economy.

Key Words

- **Insolvency:** It is a situation where individuals or companies are unable to repay their outstanding debt.
- **Bankruptcy:** It is a situation whereby a court of competent jurisdiction has declared a person or other entity insolvent, having passed appropriate orders to resolve it and protect the rights of the creditors. It is a legal declaration of one's inability to pay off debts.

First Advance Estimates for GDP

Why in News

Recently, the **Ministry of Statistics and Programme Implementation (MoSPI)** released the **First Advance Estimates (FAE)** for the current financial year (2021-22).

- According to MoSPI, India's **Gross Domestic Product (GDP)** will grow by 9.2% in 2021-22.

Key Points

- **First Advance Estimates of GDP:**
 - The FAE, first **introduced in 2016-17**, are typically published at the end of the first week of January.
 - They are the “**first**” **official estimates of how GDP is expected to grow** in that financial year.
 - Apart from it, they are also the “**advance**” estimates because they are published **long before the financial year (April to March) is over**.
 - The FAE is published soon after the end of the third quarter or **Q3 (October, November, December)**.
 - However, they **do not include the formal Q3 GDP data**, which is published at the end of February as part of the Second Advance Estimates (SAE).
 - **Significance:** The main significance of FAE lies in the fact that they are the GDP estimates that the Union Finance Ministry uses to decide the **next financial year's budget allocations**.
 - From the Budget-making perspective, it is important to estimate the **nominal GDP** — both absolute level and its growth rate.
 - This will further help in calculating **Real GDP and inflation**.
 - The difference between the real and nominal GDP shows the levels of inflation in the year.
 - $\text{Real GDP} = \text{Nominal GDP} - \text{Inflation Rate}$.
- **FAE Calculation:**
 - According to the MoSPI, the approach for compiling the Advance Estimates is based on the **Benchmark-Indicator method**.
 - According to this, the estimates available for the previous year (2020-21 in this case) are **extrapolated using relevant indicators reflecting the performance of sectors**.

- The MoSPI extrapolates sector-wise estimates using indicators such as previous data of **Index of Industrial Production (IIP)**, sale of commercial vehicles data, etc.
- **Issues in Calculation of Data:** The pandemic has upset many such projections because of significant fluctuations during the past couple of years.
 - Due to this, the MoSPI has alerted that “**these are early projections**” which are liable for subsequent revisions depending on Covid, the impact on the economy and the government's fiscal response.

GDP vs GVA

- GDP maps the economy from the expenditure (or demand) side — that is by adding up all the expenditures.
 - $\text{GDP} = \text{private consumption} + \text{gross investment} + \text{government investment} + \text{government spending} + (\text{exports} - \text{imports})$.
- The **Gross Value Added (GVA)** provides a picture of the economy from the supply side.
 - GVA maps the “value-added” by different sectors of the economy such as agriculture, industry and services.
 - $\text{Gross Value Added} = \text{GDP} + \text{subsidies on products} - \text{taxes on products}$.
- In 2015, India opted to make major changes to its compilation of national accounts and decided to bring the whole process into conformity with the **United Nations System of National Accounts (SNA) of 2008**.
 - Change of base year from 2004-2005 to 2011-2012.
 - Replacing Factor Cost with Market Prices.
 - Broadening of data pool.
 - Improved coverage of financial corporations in GDP estimation (like stock brokers, stock exchanges, asset management companies, mutual funds and pension funds).

Sweet Revolution

Why in News

Recently, the **Khadi and Village Industries Commission (KVIC)** has launched the country's **first Mobile Honey Processing Van** at Village in Uttar Pradesh.

- Mobile Honey Processing Van that will **process beekeepers’ honey at their doorsteps** and thus save them the hassle and the cost of taking the honey to processing plants in far off cities for processing.
- This initiative is taken in pursuance of “**Sweet Kranti**” (**Sweet Revolution**).

Key Points

- **Benefits of ‘Mobile Honey Processing Van’:**
 - The **transportation of honey to processing plants is an expensive affair** for small farmers and beekeepers.
 - To avoid high transportation and processing costs, a majority of beekeepers would sell their raw honey to the agents at their farms themselves at a very low price.
 - The Processing Van will **reduce the honey extraction and processing cost** to the beekeepers.
 - This will also **eliminate any scope for adulteration** of honey as the processing will be done at the doorsteps of the beekeepers and farmers.
- **About ‘Sweet Revolution’:**
 - It is an ambitious initiative of the Government of India for **promoting apiculture**, popularly known as ‘**beekeeping**’.
 - To provide a booster shot to Sweet Revolution, the government launched the **National Beekeeping and Honey Mission in 2020** (under the Ministry of Agriculture and Farmers Welfare).
 - It aims to accelerate the **production of quality honey** and other related products.
 - The demand for good quality honey has grown over the years as it is considered a **naturally nutritious product**.
 - Other apiculture products such as **royal jelly, beeswax, pollens, etc.**, are also used extensively in different sectors like pharmaceuticals, food, beverage, beauty, and others.
 - Under the **Honey Mission**, the KVIC provides the farmers or beekeepers –
 - Practical training about the examination of honeybee colonies,
 - Identification and management of bee enemies and diseases along with the management of bee colonies in all seasons.
 - Acquaintance with apicultural equipment’s and Honey extraction and wax purification.

The Honey Mission programme was launched by KVIC during 2017-18.

- Technology intervention through this mission will ensure bee conservation, **prevent diseases or the loss of bee colonies** and provide quality and quantity of apiculture products.
 - Farming practices will yield **superior-quality honey** and other products for the domestic as well as international market.
- Beekeeping is a **low investment and highly skilled enterprise model**, in which technology application has emerged as a great enabler for socio-economic growth.
 - Scaling up beekeeping will double farmers’ income, generate employment, ensure food security and bee conservation, and increase crop productivity.

Khadi and Village Industries Commission (KVIC)

- KVIC is a **statutory body** established under the Khadi and Village Industries Commission Act, 1956.
- The KVIC is charged with the planning, promotion, organisation and implementation of programmes for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- It functions **under the Ministry of Micro, Small and Medium Enterprises**.

India’s Appeal at WTO

Why in News

Recently, India has appealed against a ruling of the **World Trade Organisation’s (WTO)** trade dispute settlement panel which ruled that the country’s domestic support measures for **sugar and sugarcane** are inconsistent with global trade norms.

- Earlier, **China got the ‘developing country’ status at the WTO** which became a contentious issue with a number of countries raising concerns against the decision.

Key Points

- **India’s Appeal:**
 - The appeal was filed by India in the **WTO’s Appellate Body**, which is the final authority on such trade disputes.

- India has **appealed and requested the body to “reverse, modify, or declare moot and of no legal effect, the findings, conclusions, rulings and recommendations of the Panel”**, with respect to certain “errors of law or legal interpretation contained in the panel report.
- India has **sought review of the panel’s finding that the scheme for providing assistance to sugar mills** for expenses on marketing costs, including handling, upgrading and other processing costs and costs of international and internal transport and freight charges on the export of sugar for the 2019-20 sugar season (Maximum Admissible Export Quantity (MAEQ) Scheme), is within its terms of reference.
- **Complaint Against India:**
 - **Australia, Brazil, and Guatemala said India’s domestic support and export subsidy measures appeared to be inconsistent** with various articles of the **WTO’s Agreement on Agriculture and the Agreement on Subsidies and Countervailing Measures (SCM)**, and Article XVI (which concerns subsidies) of the **General Agreement on Trade and Tariffs (GATT)**.
 - All three countries complained that **India provides domestic support to sugarcane producers that exceeds the de minimis level** of 10% of the total value of sugarcane production, which they said was inconsistent with the Agreement on Agriculture.
 - They also raised the issue of **India’s alleged export subsidies**, subsidies under the production assistance and buffer stock schemes, and the marketing and transportation scheme.
 - Australia **accused India of “failing” to notify its annual domestic support for sugarcane and sugar subsequent to 1995-96**, and its export subsidies since 2009-10, which it said were inconsistent with the provisions of the SCM Agreement.
 - A **panel was set up by the Dispute Settlement Body (DSB)** of the WTO to look into the case and come up with its report.

WTO’s Agreement on Subsidies and Countervailing Measures

- The WTO Agreement on SCM **disciplines the use of subsidies, and it regulates the actions countries can take** to counter the effects of subsidies.

- Under the agreement, **a country can use the WTO’s dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects**. Or the country can launch its own investigation and ultimately charge extra duty (“countervailing duty”) on subsidised imports that are found to be hurting domestic producers.

WTO’s Agreement on Agriculture

- It is **aimed to remove trade barriers and to promote transparent market access** and integration of global markets.
- The **WTO’s Agriculture Committee oversees implementation of the Agreement** and provides a forum for members to address related concerns.

General Agreement on Tariffs and Trade

- GATT traces its **origins to the 1944 Bretton Woods Conference**, which laid the foundations for the post-World War II financial system and established two key institutions, the International Monetary Fund (IMF) and the World Bank.
- **GATT signed by 23 countries in Geneva in 1947** came into force on Jan 1, 1948 with the following purposes:
 - to phase out the use of import quotas
 - to reduce tariffs on merchandise trade,
- GATT became the **only multilateral instrument governing international trade** from 1948 until the WTO was established in 1995.
 - The provisions of GATT 1947 were incorporated into the GATT of 1994. The GATT 1994 is itself part of the WTO formation agreement.
 - The Uruguay Round of GATT, conducted from 1987 to 1994 culminated in the Marrakesh agreement, which established the WTO.

➤ **India’s Stand:**

- India said that the **“complainants have failed to meet their burden of showing”** that India’s market price support for sugarcane, and its various schemes violate the Agreement on Agriculture.
- It also argued that **“the requirements of Article 3 of the SCM Agreement are not yet applicable to India** and that India has a phase-out period of 8 years to eliminate export subsidies, if any, pursuant to Article 27 of the SCM Agreement.

➤ **Panels Findings:**

- The dispute settlement panel has found India’s domestic support and export subsidy measures in the sugar sector to be in **violation of international trade rules**.
- It found that for **five consecutive sugar seasons from 2014-15 to 2018-19, India provided non-exempt product-specific domestic support** to sugarcane producers in excess of the permitted level of 10% of the total value of sugarcane production.
 - India argued that its **“mandatory minimum prices are not paid by the central or state governments but by sugar mills,** and hence do not constitute market price support”, the panel rejected this argument — saying “market price support does not require governments to purchase or procure the relevant agricultural product”.

➤ **Panels Recommendation:**

- India **brings its WTO-inconsistent measures into conformity** with its obligations under the Agreement on Agriculture and the SCM Agreement.

- India should **withdraw its alleged prohibited subsidies** under the Production Assistance, Buffer Stock, and Marketing and Transportation Schemes within 120 days.

Dispute Redressal at WTO

- According to WTO rules, a **WTO member or members can file a case in the Geneva-based multilateral body** if they feel that a particular trade measure is against the norms of the WTO.
- **Bilateral consultation is the first step to resolve a dispute.** If both the sides are not able to resolve the matter through consultation, either can approach for the establishment of a dispute settlement panel.
- The panel’s ruling or report can be challenged at the **WTO’s Appellate Body**.
 - Interestingly, **the appellate body of the WTO is not functioning because of differences among member countries** to appoint members in this body. Over 20 disputes are already pending with the appellate body. **The US has been blocking the appointment of the members.**



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International Relations

Highlights

- NATO-Russia Council Talks
- Cooperation and Mutual Assistance in Customs: India-Spain
- Unrest in Kazakhstan
- China Builds Bridge across Pangong Lake
- India-China Military Talks
- India- UK Free Trade Agreement
- American Sanctions Over North Korea
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- Asian Infrastructure Investment Bank (AIIB)
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- Crisis in Sudan
- Prohibition of Attacks against Nuclear Installations and Facilities: India-Pakistan
- Pledge to Stop Nuclear Proliferation: Permanent Five of UNSC
- China's New Border Law
- Dalai Lama
- New Bridge: India & Nepal
- MoU in the field of Disaster Management: India -Turkmenistan
- Homeland Security Dialogue between India and US

NATO-Russia Council Talks

security settlement in Europe, challenging Russia

Why in News

Recently, the **North Atlantic Treaty Organisation (NATO)** and Russia discussed the ongoing **situation in Ukraine** and its implications for security in Europe at the **NATO-Russia Council (NRC)** in Brussels.

- Talks between representatives of NATO and Russia **concluded without a clear outcome.**

Key Points

- **NATO-Russia Council:**
 - NRC was established at the **NATO-Russia Summit in Rome (Rome Declaration) on 28 May 2002.**
 - It replaced the **Permanent Joint Council (PJC)**, a forum for consultation and cooperation **created by the 1997 NATO-Russia Founding Act** on Mutual Relations.
 - The NRC is a mechanism for **consultation, consensus-building, cooperation, joint decision and joint action, in which the individual NATO member states and Russia work as equal partners** on a wide spectrum of security issues of common interest.
- **Highlights of the Meet:**
 - NATO **rejected Russia's demand for a new**

to **withdraw troops deployed near Ukraine and join talks** on reducing the threat of open conflict.

- For the US and EU, **Ukraine acts as a significant buffer with Russia**. Ukraine is also building a naval base in Ochakiv and another in Berdyansk, which Russia is not happy about.
- The **Western allies received no promise that Russia will stand down its forces** — which Moscow insists pose no threat to its already partially occupied neighbour — despite the threat of economic sanctions.
- Russia demanded not to admit any more members into NATO and to withdraw western forces from its Eastern Allies. It also warned that the **continued deterioration could lead to the “most unpredictable and most dire consequences for European security.”**
- There are significant **differences between NATO allies and Russia** which will not be easy to bridge.
- **India’s Stance over Russia Ukraine Crisis:**
 - India did not join the **Western powers’ condemnation of Russia’s intervention in Crimea and kept a low profile** on the issue.
 - In November 2020, **India voted against a Ukraine-sponsored resolution in the United Nations (UN)** that condemned alleged human rights violations in Crimea thereby backing old ally Russia on the issue.

North Atlantic Treaty Organisation

- It is a **military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949**, by the United States, Canada, and several Western European nations to **provide collective security against the Soviet Union**.
- A key provision of the treaty, the so-called **Article 5**, states that if one member of the alliance is attacked in Europe or North America, it is to be considered an attack on all members. That effectively put Western Europe under the “nuclear umbrella” of the US.
- As of 2019, there are **29 member states, with Montenegro becoming the latest member to join the alliance in 2017**.

- It is a **legal framework for sharing of information between the Customs authorities of the two countries**.
- It helps in the proper **administration of Customs laws and detection and investigation of Customs offences** and the facilitation of legitimate trade.

➤ Provisions:

- The correct assessment of customs duties, especially information pertaining to the determination of the customs value, tariff classification and the origin of the goods.
- Customs offence concerning **illicit movement of the following**:
 - Arms, ammunition, explosives and explosive devices.
 - Works of art and antiques, which are of significant historical, cultural or archaeological value.
 - Toxic materials and other substances dangerous to the environment and public health.
 - Goods subject to substantial customs duties or taxes.
 - New means and methods employed for committing Customs offences against Customs legislation.

➤ Significance:

- It will help in **making available, reliable, quick and cost-effective information and intelligence for the prevention and investigation** of Customs offences and apprehending of Customs offenders.

Cooperation and Mutual Assistance in Customs: India-Spain

Why in News

Recently, the Union Cabinet has approved an Agreement between India and Spain on **Cooperation and Mutual Assistance in Customs Matters**.

Key Points

- **About:**

India Spain Relations

➤ **About:**

- Relations between India and Spain have been cordial **since the establishment of diplomatic relations in 1956**. The first resident Ambassador of India was appointed in 1965.
- The first state visit to Spain by an Indian head of state was paid by the then President in April, 2009.
- The 11th round of the **JCEC (Joint Commission on Economic Cooperation)** meeting was held in Madrid in January 2018.
 - In order to give an impetus to trade and investment relations, India-Spain Joint Commission on Economic Cooperation (JCEC) was set up under the **1972 Trade and Economic Cooperation Agreement** and has since met ten times.

➤ **Economic and Commercial Relations:**

- Spain is India's **7th largest trading partner in the European Union**.
- Bilateral trade in 2018 (Jan - Dec) stood at USD 6.31 billion, growing by 8.68% over a similar period a year ago.
 - India's exports grew by 8.49 % and stood at USD 4.74 billion while imports grew by 8.49 % and stood at USD 1.571.39 billion.
 -
- Indian exports to Spain include **organic chemicals, textiles and garments, iron and steel products, automotive components, marine products and leather goods**.
- Spain is the **15th largest investor in India** with cumulative **FDI (Foreign Direct Investment)** stock of **USD 1.43 billion (in January 2000)**, mostly in infrastructure, renewable energy, auto components, water desalination and single brand retail.

➤ **Cultural and Academic Relations:**

- Cultural exchange is an important component of India-Spain bilateral relations. Casa de la India (Homestead) was founded in 2003 as a platform **for the promotion of India and Spain and Indo-Spanish relationships in the field of culture, education, cooperation and enterprise**.
- **ICCR (Indian Council for Cultural Relations)** sponsored exhibitions 'Religions of India' and 'Streams of India' were also hosted in different

- The first **International Day of Yoga** (21th June, 2015) witnessed participation by over 1200 Yoga enthusiasts in a mega Master Class in the iconic Plaza de Colón followed by a Conference on Yoga.
- The ICCR and Casa de la India and with support of the Embassy of India, launched an **Indo-Spanish theatre co-production titled 'Flamenco India'**.

➤ **Indian Diaspora:**

- The Indian community forms a **very small percentage of the immigrant population** of Spain.
- Among the Asian communities, the Indian Diaspora is the third largest group, after Chinese and Pakistanis.
- The earliest Indian settlers were Sindhis who came from the subcontinent at the end of the 19th century and settled in the **Canary Islands**.
- According to Spanish statistics, the resident Indian population in Spain has gone up from 9000 in 2001 to 34761 as of 2015.

➤ **Bilateral Agreements:**

- Agreement on Trade and Economic Cooperation (1972)
- Agreement on Cultural Cooperation (1982).
- Civil Aviation Agreement (1986).
- Double Taxation Avoidance Agreement (1993).
- Bilateral Investment Protection and Promotion Agreement (1997).
- Extradition Treaty (2002)
- MoU on Institutionalisation of Political Dialogue (2006)

Unrest in Kazakhstan

Why in News

Recently, a sharp and sudden **spike in fuel prices** triggered a **national crisis in Kazakhstan**, with the government officially stepping down following days of violent **protests across the country**.

- **Russian-led forces** have also arrived in Kazakhstan at the request of the country's authoritarian president, amid a violent crackdown on anti-government protests.
- Earlier, the Defence Minister of **India held bilateral talks with the Defence Minister of the Republic of Kazakhstan** in New Delhi.

Key Points

➤ Reason for the Unrest:

- Angry Kazakhs first took to the streets after **fuel prices doubled in the oil-rich Central Asian nation** when the government lifted price caps for **Liquidified Petroleum Gas (LPG)**, commonly used in vehicles.
- The protests began in the oil city of Zhanaozen, where at least 16 oil workers **protesting against poor working conditions** were killed by the police in 2011.
- Demonstrations broke out and **quickly turned violent in cities and towns across the country, in what is being called the biggest wave of protests in Kazakhstan's history.**
 - Kazakhstan **has been a largely stable autocracy** since the collapse of the Soviet Union; protests of this scale haven't been seen since the 1980s.
 - **Autocracy** is a system of government of a country in which one person has complete power.
- Protesters **demand the resignation of the government and lowering of LPG prices.**
- They have argued that the **jump in prices would cause a steep increase in food prices and deepen**

the **income inequality** that has plagued the nation for decades.

- Just last year (2021), **inflation** in the country was closing in on 9% year-on-year, the highest it has been in over five years.

➤ Demand for Democracy:

- Cheaper fuel is only the tip of the iceberg. There has been a **growing discontent among ordinary Kazakhs, both over rising income inequality**, which has only worsened due to the coronavirus pandemic, and the **lack of democracy.**
- While the country has been able to attract millions of dollars worth of foreign investments by appearing politically stable, its **authoritarian government has been widely criticised over the years for violating fundamental freedoms.**

➤ Significance of the Protests:

○ For the World:

- Sandwiched between Russia and China, Kazakhstan is the **world's largest landlocked country**, bigger than the whole of Western Europe, though with a population of just 19 million.

- It has vast mineral resources, with **3% of global oil reserves and important coal and gas sectors.**

- It is the top global producer of **uranium**, which jumped in price by 8% after the unrest.

- The country is also the world's second-largest miner of **bitcoin.**

- A mainly Muslim republic with a large Russian minority, it has largely escaped the civil strife seen in other parts of Central Asia.

- The latest demonstrations matter because **the country has been regarded until now as a pillar of political and economic stability in an unstable region**, even as that stability has come at the price of a repressive government that stifles dissent.
- **For Russia:**
 - The protests are also significant as **Kazakhstan has been aligned with Russia**, whose president views the country — **a body double of sorts for Russia in terms of its economic and political systems** — as part of Russia’s sphere of influence.
 - The intervention by the **Collective Security Treaty Organisation**, a Russian version of **North Atlantic Treaty Organisation (NATO)**, is the first time that its protection clause has been invoked, a move that could potentially have sweeping consequences for geopolitics in the region.
 - This is the third uprising against an authoritarian, Russia-aligned nation, following pro-democracy protests in **Ukraine** in 2014 and in **Belarus** in 2020.
 - The chaos **threatens to undermine Russia’s sway in the region at a time when Russia is trying to assert its economic and geopolitical power** in countries like Ukraine and Belarus.
 - The **countries of the former Soviet Union are also watching the protests closely**, and the events in Kazakhstan could **help energise opposition forces elsewhere**.
- **For US:**
 - Kazakhstan also matters to the US, as it has become a **significant country for American energy concerns**, with Exxon Mobil and Chevron having invested tens of billions of dollars in western Kazakhstan, the region where the unrest began this month.
 - The United States government has long been less **critical of post-Soviet authoritarianism in Kazakhstan than in Russia and Belarus**.
- **Government’s Reaction:**
 - It called the protesters “a band of terrorists,” **declared Kazakhstan under attack and asked the Russian-led military alliance to intervene**.

- The government has also **tried to quell the demonstrations by instituting a state of emergency and blocking social networking sites** and chat apps.
- Public **protests without permits were already illegal**. It also initially conceded to a few of the demonstrators’ demands, dismissing the cabinet and announcing the possible dissolution of Parliament, which would result in new elections. But its **moves have so far failed to tame discontent**.
- **Global Stand:**
 - The **United Nations (UN)**, US, UK, and France have called on all sides to refrain from violence.
 - **India** is closely monitoring the situation in Kazakhstan and will facilitate the return of Indians.

China Builds Bridge across Pangong Lake

Why in News

Recently, it was found that China is building a **new bridge on Pangong Tso** which will provide an additional axis to deploy troops faster between the north and south banks of the lake, and closer to the **LAC (Line of Actual Control)**.

- Earlier, **China’s new law on land borders** came into effect from 1st January, 2022, at a time when border standoff in eastern Ladakh remains unresolved and several places in Arunachal Pradesh have been renamed recently by China as part of its claim on the Indian state.
- India too has been **improving its infrastructure in the border areas**. In 2021, the Border Roads Organisation completed more than 100 projects in border areas, the majority of which were close to the border with China.

Key Points

- **Background:**
 - Since the **military standoff began in May 2020**, India and China have not only worked to improve existing infrastructure, but have also built several new roads, bridges, landing strips along the entire frontier.
 - Towards the end of August 2020, India outmanoeuvred China to capture the previously **unoccupied heights of the Kailash Range on the south bank** of Pangong Tso lake.

- Indian **troops positioned themselves on the peaks there, including Magar Hill, Gurung Hill, Rezag La, Rechin La, and this allowed them to dominate the strategic Spanggur Gap** — it can be used for launching an offensive, as China had done in 1962 — and also gave them a view of the PLA garrison at Moldo.
 - Indian troops had also positioned themselves **above the Chinese troops in the Fingers area on the north bank**. During this scramble for the heights, shots had been fired by both sides, a first in over four decades.
 - Troops from the two countries remained on these heights through the harsh winter months. **The significance of these positions was one of the main factors that compelled China to negotiate a pullback.**
 - Both countries agreed to a pullback from the north bank of the lake, and positions on the Kailash Range in the Chushul sub-sector south of Pangong Tso.
- **About:**
- The bridge is being constructed **more than 20 km east of Finger 8 on the lake's north bank** – India says Finger 8 denotes the LAC.
 - The Lake is overlooked by the Finger Area - a set of eight cliffs extending out of the Sirijap range (on the northern bank of Lake).
- China pulled back troops from the north and south banks in February 2021, the area had seen massive mobilisation and the two sides even deployed tanks, barely a few hundred metres apart in some locations.
- The bridge site is just **east of Khurnak Fort** in Rutog county where the **PLA (People's Liberation Army)** has frontier bases.
 - Historically a part of India, **Khurnak Fort has been under Chinese control since 1958.**
 - From Khurnak Fort, the LAC is considerably west, **with India claiming it at Finger 8 and China claiming it at Finger 4.**
- **Significance for China:**
- The bridge will cut a 180-kilometer loop from Khurnak to the south banks through Rudok reducing the distance between Khurnak and Rudok to 40-50 kilometres, rather than approximately 200 kilometres as previously stated.
 - The building of the bridge **will allow it to mobilise its troops faster in this area**, hoping to prevent a repeat of what happened in August 2020.
- **Implication for India:**
- The bridge is in their territory, and the Indian Army will have to factor this in its operational plans.
 - The widening of roads, building of new roads and bridges, new bases, airstrips, advance landing bases, etc are not restricted to the eastern Ladakh region, **but are happening across the three sectors of the India-China boundary** (Eastern, Middle and Western).
- Pangong Tso, an endorheic lake, **is 135 km long, of which more than two-thirds is under Chinese control.**
- The north and south banks of the lake were among the several friction points that surfaced after the start of the standoff. Before India and

India-China Military Talks

Why in News

Recently, the **14th round of Corps Commander level talks** concluded between **India and China**. The meeting resulted in **no breakthrough for disengagement from Hot Springs and Gogra Post**, but the two sides have agreed to meet again soon.

- The meeting had a **positive outcome** in comparison to the last meeting, whereby no joint statement was released and the two sides had issued independent statements blaming each other for the situation.

Key Points

- **Location of Hot Springs and Gogra Post:**
 - **Hot Springs** is just **north of the Chang Chenmo river** and **Gogra Post** is **east of the point where the river takes a hairpin bend** coming southeast from Galwan Valley and turning southwest.
 - The area is **north of the Karakoram Range of mountains**, which lies **north of the Pangong Tso lake**, and **south east of Galwan Valley**.
- **Importance of Hot Springs and Gogra Post :**
 - The area lies **close to Kongka Pass**, one of the main passes, which, according to China, marks the boundary between India and China.
 - India's claim of the international boundary lies significantly east, as it includes the entire **Aksai Chin** area as well.
 - Hot Springs and Gogra Post are **close to the boundary between two of the most historically disturbed provinces (Xinjiang and Tibet)** of China.

Pangong Tso lake

- Pangong Lake is located in the Union Territory of Ladakh
- It is situated at a height of almost 4,350m and is the world's highest saltwater lake.
- Extending to almost 160km, one-third of the Pangong Lake lies in India and the other two-thirds in China.

Galwan Valley

- The valley refers to the land that sits between steep mountains that buffet the Galwan River.

- The river has its source in Aksai Chin, on China's side of the Line of Actual Control (LAC) and it flows from the east to Ladakh, where it meets the Shyok river on India's side of the LAC.
- The valley is strategically located between Ladakh in the west and Aksai Chin in the east, which is currently controlled by China as part of its Xinjiang Uyghur Autonomous Region.

Chang Chenmo River

- Chang Chenmo River or Changchenmo River is a tributary of the Shyok River, part of the Indus River system.
- It is at the southern edge of the disputed Aksai Chin region and north of the Pangong Lake basin.
- The source of Chang Chenmo is near the Lanak Pass.

Kongka Pass

- The Kongka Pass or Kongka La is a low mountain pass over a hill that intrudes into the Chang Chenmo Valley. It is in the disputed India-China border area in Ladakh.

Karakoram Range

- It is also known as Krishnagiri which is situated in the northernmost range of the Trans-Himalayan ranges. It forms India's frontiers with Afghanistan and China.
- It extends eastwards from the Pamir for about 800 km. It is a range with lofty peaks (elevation 5,500 m and above).
- Some of the peaks are more than 8,000 metre above sea level. K2 (8,611 m)[Godwin Austen or Qogir] is the second highest peak in the world and the highest peak in the Indian Union.
- The Ladakh Plateau lies to the north-east of the Karakoram Range.

India- UK Free Trade Agreement

Why in News

Recently, India and the UK have launched the formal **Free Trade Agreement (FTA) negotiations**, that both countries envisage **concluding by the end of 2022**.

- Until then, both countries are contemplating an **interim free trade area**, which will result in **reducing tariffs on most of the items**.

India-UK Trade Relations

- **About:**
 - India and the UK are vibrant democracies, with a **partnership built on our shared history and rich culture.**
 - The diverse **Indian diaspora in the UK, which acts as a “Living Bridge”**, adds further dynamism to the relations between the two countries.
 - The **UK is one of the largest investors in India**, among the **G20 countries.**
- **Significance of FTA between India & the UK:**
 - **Increasing Exports of Goods:** Trade deals with the UK could boost exports for large job-creating sectors such as **textiles, leather goods, and footwear.**
 - India is also expected to register a **quantum jump in the export of Marine Products** through the recognition of 56 marine units of India.
 - **Mutual Recognition Agreements (MRAs)** on Pharma could provide additional market access.
 - **Clarity on Services Trade:** The FTA is **expected to provide certainty, predictability and transparency** and will create a more liberal, facilitative and competitive services regime.
 - There is also great potential for increasing exports in service sectors like IT/ITES, Nursing, education, healthcare, including **AYUSH** and audio-visual services.
 - Visa restrictions have been a key issue for India to boost services trade.
 - **Exit from RCEP:** India opted out of the **Regional Comprehensive Economic Partnership deal** in November 2019.
 - Therefore, there is a renewed focus on trade deals with the US, the European Union and the UK, which are key markets for Indian exporters and are keen to diversify their sourcing.
 - **Strategic Advantage:** The UK is a permanent member of the UN Security Council, and one of the strategic partners of India.
 - Strengthening bonds with the trade would seek UKs support at global issues like **standoff with China** in the Ladakh sector of the **Line of Actual Control (LAC)** and **claim for permanent seat at UNSC.**

Key Points

- **About the Agreement:**
 - Both countries agreed to an **early harvest scheme or a limited trade agreement to lower tariffs** on a small set of goods apart from easing rules for select services.
 - Further, they agreed to avoid **“sensitive issues”** and focus on areas where there is more complementarity.
 - The **agriculture and dairy sectors** are considered sensitive sectors for India in trade talks.
 - Also, a target of **doubling the trade between India and the United Kingdom (UK) by 2030** has also been set.
- **Free Trade Agreement (FTA):**
 - It is a **pact between two or more nations to reduce barriers to imports and exports** among them.
 - Under a free trade policy, **goods and services can be bought and sold across international borders with little or no government tariffs**, quotas, subsidies, or prohibitions to inhibit their exchange.
 - The concept of free trade is the opposite of trade protectionism or economic isolationism.
 - FTAs can be categorised as Preferential Trade Agreement, **Comprehensive Economic Cooperation Agreement, Comprehensive Economic Partnership Agreement (CEPA).**

➤ **Associated Challenges:**

- **Delays in Signing FTAs:** Interim agreements, which reduce tariffs on some products, can however in some cases **lead to significant delays in achieving comprehensive FTAs.**
 - India, in 2004, signed an interim trade agreement with Thailand to reduce tariffs on 84 goods, but the agreement was never converted to a full-fledged FTA.
- **WTO Challenges:** Interim FTA do not graduate into full FTAs can also face challenges from other countries at the **World Trade Organization(WTO).**
 - The **WTO rules only permit members to give preferential terms** to other countries if they have bilateral agreements that cover “substantially all the trade” between them.

- Before a concrete plan could be formulated, the **USSR invaded Korea.**
- This led to a condition where the **north of Korea was under the USSR** and the **south under the rest of the allies, mainly the US.**
- The Korean peninsula was divided into two regions by the **38th parallel.**
- In 1948 the United Nations proposed free elections across all of Korea.
 - **The USSR rejected this plan** and the northern part was declared as **Democratic People’s Republic of Korea (North Korea).**
 - The election took place in the **American protectorate** resulting in the establishment of the **Republic of Korea (South Korea).**
- Both North Korea and South Korea tried to enhance their reach, territorially and ideologically, which gave birth to the Korean Conflict.

American Sanctions Over North Korea

Why in News

Recently, the US has imposed its first sanctions over **North Korea’s weapons programs** following a series of **North Korean missile launches.**

- These sanctions were aimed both to prevent the **advancement of North Korea’s programs** and to impede its **attempts to proliferate weapons technologies.**
- North Korea is continuing its missile program despite several **UN Security Council** resolutions and the international community’s calls for **diplomacy and denuclearization.**

Key Points

- **Origin of Divide in Korean Peninsula:**
 - The present-day conflict between the US and North Korea can be traced from the **Cold War** between the **USSR and US.**
 - After the defeat of Japan in **World War II**, the Allied forces at the **Yalta Conference (1945)**, agreed to establish a “four-power trusteeship over Korea”.
 - The fear of the spread of **communism (state ownership over economic resources of a country)** and the **mutual distrust between the USSR and the US** led to the failure of the trusteeship plan.

➤ **The Korean War:**

- On 25th June 1950, North Korea, backed by the USSR, launched an attack on South Korea and occupied most of the country.
 - In response, the **United Nations force led by the US retaliated.**
- In 1951 the US forces led by Douglas MacArthur crossed the 38th parallel and triggered the entry of China in support of North Korea.
 - To prevent further escalation, peace talks began later in 1951.
- **India was actively involved in negotiating peace** in the Korean peninsula by engaging all the major stakeholders – **US, USSR and China.**

- In 1952, the **Indian resolution on Korea was adopted at the United Nations (UN)**.
- On 27th July 1953, the **Korean Armistice Agreement** was signed between the UN Command, the Korean People's Army and the Chinese People's Volunteer Army.
 - It led to an **official ceasefire without a Peace treaty**. Thus, the war officially never ended.
- This also led to the establishment of the **Korean Demilitarised Zone (DMZ)** – a strip of land running across the Korean Peninsula to serve as a buffer zone between North Korea and South Korea.
- In December 1991, North and South Korea signed a **pact agreeing to refrain from aggression**.
- **US-North Korea Conflict:**
 - During the **Cold War era, (allegedly with the support of Russia and China)** North Korea accelerated its nuclear programme and developed nuclear capabilities.
 - During the same time, the **US extended its Nuclear Umbrella** (guarantee of support during a nuclear attack) to its allies i.e South Korea and Japan.
 - North Korea withdrew from the **Non-Proliferation Treaty (NPT) in 2003** and afterwards, under **present leader Kim Jong-un, it increased nuclear missile testing**.
 - North Korea is **barred from testing ballistic missiles and nuclear weapons under international law**.
 - In response to this, the US started deploying **THAAD (Terminal High Altitude Area Defence)** in South Korea in March 2017.
 - The territorial conflict which started between North and South Korea has **transformed into a tussle between the US and North Korea**.
 - Following the failure of diplomatic efforts to improve relations with North Korea, **the US has imposed sanctions**.
- **India's Stand:**
 - India has **consistently voiced its opposition to North Korean nuclear and missile tests**. However, it has maintained a **neutral stance** regarding sanctions.

India- South Korea Trade Talks

Why in News

Recently, the Trade Minister of South Korea held discussions with the Minister of Commerce & Industry, Consumer Affairs, Food & Public Distribution and Textiles.

Key Points

- **CEPA Up-gradation:**
 - Both countries agreed to impart fresh momentum to the discussions on **Comprehensive Economic Partnership Agreement (CEPA) up-gradation** negotiations and also promote extensive B2B (business-to-business) interactions on trade and investment between the Industry leaders of the two countries.
- **Bilateral Trade Target:**
 - India and South Korea set a **bilateral trade target of USD50 billion before 2030**, which was agreed at the summit meeting in 2018.
 - This regular negotiations shall be a forum to discuss the difficulties of the business community from both countries and emerging trade-related issues including **supply chain resilience**.
 - Agreed to **boost bilateral trade between India and Korea** to achieve growth in a fair and balanced manner to the mutual advantage of both sides.
 - Indian players have been facing difficulties in exporting their products in Korea in sectors such as steel, engineering, and agri products due to stringent regulatory issues in Korea.
 - The **trade deficit** has increased from USD5 billion in 2008-09 to USD8 billion in 2020-21.

Comprehensive Economic Partnership Agreement

➤ **About:**

- It is a kind of **free trade pact** which covers negotiation on the trade in services and investment, and other areas of economic partnership. It may even consider negotiation on areas such as trade facilitation and customs cooperation, competition, and Intellectual Property Rights.
- Partnership agreements or cooperation agreements are more comprehensive than Free Trade Agreements.
- CEPA also looks into the regulatory aspect of trade and encompasses an agreement covering the regulatory issues.

➤ **India's CEPAs:**

- India has **signed CEPAs with South Korea and Japan.**
- In 2021, India and the United Arab Emirates (UAE) formally launched negotiations on the India-UAE CEPA.
- India is also looking to advance a CEPA with Bangladesh.

India-South Korea Relations

➤ **Political:**

- During the Korean War (1950- 53), **India played a major role in a cease-fire agreement** signed between both the warring sides (North Korea and South Korea) and the ceasefire was declared on 27th July 1953.
- In May 2015, the bilateral relationship was upgraded to '**special strategic partnership**'.
- India has a major role to play in **South Korea's Southern Policy** under which Korea is looking at expanding relations beyond its immediate region.
- Similarly, South Korea is a major player in India's **Act East Policy** under which India aims to promote economic cooperation, cultural ties and develop strategic relationships with countries in the Asia-Pacific.

➤ **Trade Relations:**

- The trade and economic relations between India and South Korea have gathered momentum in recent years with **annual bilateral trade reaching USD21.5 billion in 2018**, crossing the USD20 billion mark for the first time.

Bilateral trade in January-December 2020 was recorded at **USD16.9 billion.**

- The bilateral **Comprehensive Economic Cooperation Agreement (CEPA)**, set in place since 2010, has spurred trade and investments both ways.
- To facilitate investment from Korea, India has launched a "**Korea Plus**" **facilitation cell** under '**Invest India**' to guide, assist and handhold investors.
- South Korea's total **foreign direct investment** to India up to September 2020 was about USD6.94 billion and is one of the key investors in India.

➤ **Defence:**

- In 2005, the two sides signed an **agreement to cooperate in defence and logistics** and another Memorandum of Understanding (MoU) on cooperation between the two Coast Guards in 2006 .
- So far, the Indian and South Korean Coast Guards have conducted five exercises with an aim to enhance interoperability.
- The most recent of these exercises was held off the coast of Chennai, named **Sahyog-Hyeoblyeog 2018**.
 - Sahyog - Hyeoblyeog is part of a proposed establishment of a MoU between the two **Coast Guards to improve maritime security in the Indian Ocean Region.**
- In May 2021, the Indian Defence Minister and his South Korean counterpart inaugurated the **India-Korea Friendship Park** in a ceremony at the Delhi Cantonment.
 - The park was **built to commemorate the contribution of the Indian peacekeeping force** during the Korean war of 1950-53.

➤ **Cultural:**

- Korean Buddhist Monk Hyecho or Hong Jiao visited India from 723 to 729 AD and wrote the travelogue "**Pilgrimage to the five kingdoms of India**" which gives a vivid account of Indian culture, politics & society.
- Nobel Laureate **Rabindranath Tagore** had composed a short but evocative poem – 'Lamp of the East' - in 1929 about Korea's glorious past and its promising bright future.
- To further enhance cultural exchanges between India and Korea, **Indian Cultural Centres (ICC)** were established in Seoul in April 2011 and in Busan in December 2013.

- Earlier, on the banks of the Sarayu in Ayodhya, the **Ram Katha Park** has been renovated which will be renamed as **Queen Heo Hwang-ok memorial park**. The Korean queen is believed to have had Indian roots.
- **Multilateral Platforms Shared by Both the Countries:**
 - **United Nations**
 - **World Trade Organisation**
 - **ASEAN Plus**
 - **East Asia Summit (EAS)**
 - **G-20**

Asian Infrastructure Investment Bank (AIIB)

Why in News

Recently, former Reserve Bank of India (RBI) governor **Urjit Patel** has been appointed **vice-president of the Beijing-based Asian Infrastructure Investment Bank (AIIB)**.

- In October 2021, the **Union Minister of Finance** participated in the **6th Annual Meeting of the Board of Governors of AIIB**.

Key Points

- **About:**
 - It is a **multilateral development bank** with a mission to improve social and economic outcomes in Asia.
 - It **aims to** connect people, services and markets that over time will impact the lives of billions and build a better future by investing in sustainable infrastructure and other productive sectors.
 - It is established by the **AIIB Articles of Agreement (entered into force December 2015)** which is a multilateral treaty.
 - It is **headquartered in Beijing (China)** and began its operations in January 2016.

Various Organs of AIIB:

- **Board of Governors:**
 - The Board of Governors consists of one Governor and one Alternate Governor appointed by each member country. Governors and Alternate Governors serve at the pleasure of the appointing member.

- **Board of Directors:**
 - Non-resident Board of Directors is responsible for the direction of the Bank's general operations, exercising all powers delegated to it by the Board of Governors.

- **Senior Management:**
 - AIIB staff is headed by the President who is elected by AIIB shareholders for a five-year term and eligible for reelection once.

- **International Advisory Panel:**
 - The Bank has established an International Advisory Panel (IAP) to support the President and Senior Management on the Bank's strategies and policies as well as on general operational issues.

➤ **Key Accomplishments of AIIB:**

- **Rapid Growth in Worldwide Membership:**
 - AIIB began operations in 2016 with 57 founding Members (37 regional and 20 non regional). By the end of 2020, it had **103 approved Members** representing **approximately 79% of the global population and 65% of global GDP**.
- **Highest Credit Rating Assigned by Three Major Rating Institutions:**
 - Since 2017, AIIB has received **AAA ratings** with a stable outlook from the top credit rating agencies—Standard&Poor's, Moody's and Fitch.
 - Industry recognition of its sound financial standing has enabled it to expand its presence in international capital markets.
- **Permanent Observer Status in the United Nations:**
 - In 2018, AIIB was granted **Permanent Observer status** in the deliberations of both the **United Nations General Assembly** and the **Economic and Social Council**, the two development-focused principal organs of the global body.
- **Governance Model Enhancing Efficiency and Accountability:**
 - AIIB has created an effective environment for its **Board of Directors to take a strategic approach** to direct and oversee the work of an accountable management.
 - The **Bank's Accountability Framework** is an innovative governance model that positions AIIB to embed a culture of accountability throughout the organization.

○ **Policies and Strategies Developed or Finalized:**

- Strategies for all major infrastructure sectors and for investing in equity, mobilizing private capital and financing operations in non regional members have all been approved and being implemented.

➤ **AIIB and India:**

- The AIIB has **approved more loans for India** than any other member of the bank.
 - **China is its biggest shareholder** and India is the second-largest.
- The AIIB has funded **28 projects in India amounting to USD6.7 billion.**
- It has recently **emphasised green projects** and supporting public health initiatives during the **Covid-19** pandemic, besides infrastructure.
- In October 2021, India applied for loans from the AIIB and **Asian Development Bank (ADB)** to procure 667 million doses of Covid-19 vaccines with the ADB expected to lend USD1.5 billion and the AIIB around USD500 million, under the ADB's **Asia Pacific Vaccine Access Facility (APVAX) initiative.**
- Last year (2021), the AIIB also approved a USD356.67 million loan to the Indian government to support the **expansion of the Chennai metro rail system.**

- The other 5 organs of the United Nations are—the General Assembly (UNGA), the Trusteeship Council, the Economic and Social Council, the International Court of Justice, and the Secretariat.

- Its primary responsibility is **to work to maintain international peace and security.**

- The council is **headquartered at New York.**

○ **Members:**

- The council has 15 members: the **five permanent members and ten non-permanent members** elected for **two-year terms.**

- The five permanent members are the United States, the Russian Federation, France, China and the United Kingdom.

- India, for the **eighth time**, has entered the UNSC as a **non-permanent member** last year (2021) and will stay on the council for two years i.e 2021-22.

- **Each year**, the General Assembly **elects five non-permanent members** (out of ten in total) for a two-year term. The ten non-permanent seats are **distributed on a regional basis.**

- The **council's presidency is a capacity that rotates every month among its 15 members.**

○ **Voting Powers:**

- Each member of the Security Council **has one vote.** Decisions of the Security Council on matters are **made by an affirmative vote of nine members including the concurring votes of the permanent members.** A "No" vote from one of the five permanent members blocks the passage of the resolution.

- Any member of the United Nations which is **not a member of the Security Council may participate**, without vote, in the discussion of any question brought before the Security Council whenever the latter considers that the interests of that member are specially affected.

United Nation Security Council

Why in News

The **United Nation Security Council (UNSC)** got five new non permanent members (**Albania, Brazil, Gabon, Ghana and the United Arab Emirates**).

- Estonia, Niger, St Vincent and the Grenadines, Tunisia and Vietnam finished their terms recently.
- Albania is joining for the **first time** while Brazil is taking an **11th turn**. Gabon and Ghana each have been on the council three times before and the UAE once.
- More than 50 of the UN's 193 member countries have never been elected to the council since its formation.

Key Points

➤ **UNSC:**

○ **About:**

- The Security Council was established by the UN Charter in 1945. It is one of the six principal organs of the **United Nations.**

➤ **India in the UNSC:**

- India took active part in the formulation of the **Universal Declaration of Human Rights (UDHR)** in 1947-48 and raised its voice passionately against racial discrimination in South Africa.

- India has played its part in **formulating decisions on several issues** such as admitting former colonies to the UN, addressing deadly conflicts in the Middle East and maintaining peace in Africa.
- It has contributed extensively to the UN, particularly for the **maintenance of international peace and security**.
 - India has taken part in 43 **Peacekeeping missions** with a total contribution exceeding 160,000 troops and a significant number of police personnel.
- India's population, territorial size, **Gross Domestic Product (GDP)**, economic potential, civilisational legacy, cultural diversity, political system and past and ongoing contributions to UN activities make India's demand for a permanent seat in the UNSC completely rational.

➤ **Issues with UNSC:**

- **Absence of Records and Texts of Meetings:**
 - The usual UN rules don't apply to the UNSC deliberations and no records are kept of its meetings.
 - Additionally, there is no "text" of the meeting to discuss, amend or object.
- **Powerplay in UNSC:**
 - The veto powers that the UNSC's five permanent members enjoy is an anachronism in this age.
 - The UNSC in its current form has become a constraint in understanding the international changes and dynamics in the area of human security and peace.
- **Divisions Among the P5:**
 - There is a deep polarisation within the UN's membership, so decisions are either not taken, or not heeded.
 - Frequent divisions within the UNSC P-5 end up blocking key decisions.
 - **Example:** With the coronavirus pandemic emergence, the UN, the UNSC, and **World Health Organisation** failed to play an effective role in helping nations deal with the spread.
- **An Underrepresentation Organisation:**
 - The absence in the UNSC of the globally important countries – **India, Germany, Brazil and South Africa** - is a matter of concern.

Crisis in Sudan

Why in News

Recently, Sudan's civilian Prime Minister Abdalla Hamdok resigned, plunging the country into further turmoil.

- Mr. Hamdok, who was sacked by the military in October 2021 and reinstated a few weeks later as part of a deal, **stepped down as anti-military protests continued to rock the country**.
- **Sudanese pro-democracy groups** rejected Mr. Hamdok's deal with the military and demanded the Generals hand over power to an independent civilian authority.

Key Points

- **Unstable Sudan:**
 - Sudan is at a familiar deadlock, subject to the whims of a brutal military regime after a coup. On a continent with a bad record in this respect, Sudan is in a class of its own, with **six coups and 10 failed attempts since independence in 1956**.
 - Since independence **Sudan has been governed, with only occasional breaks, by an Arab elite in Sudan**, bent on plundering the country's considerable wealth at the expense of its people.

- Their rule, **exercised through the army**, has been cloaked in the language of Islam; it is **really a kleptocracy**.
 - **Kleptocracy** is a government whose corrupt leaders use political power to appropriate the wealth of their nation, typically by embezzlement or misappropriation of government funds at the expense of the wider population.
 - The consequence is a country beset by wars and conflict between the centre and the immiserated peripheries. **The army and its allied militias, notably the Rapid Support Forces, have used their power to carve out swathes of the economy for themselves**, well beyond defence industries.
 - Civilian rule, bringing transparency, as well as democracy, would threaten those financial interests.
 - The **victims of decades of misrule are ordinary Sudanese**. Facing **inflation** rates of over 100%, almost a quarter of the population can barely feed themselves and millions live in refugee camps.
 - By contrast, the **elites seem to get by**. Therefore the elites will fight to preserve the status quo.
- **Current Crisis:**
- The churn has accelerated since **General Omar al-Bashir, indicted for genocide, was toppled by a popular revolution in April 2019**.
 - Subsequently, **the Sovereignty Council, an 11-member body comprising military and civilian leaders** that replaced the military-led transition council, appointed Mr. Hamdok as Prime Minister.
 - During the Sovereignty Council's rule, **Sudan entered into a peace deal with rebel groups, banned female genital mutilation, made peace with Israel** and reached out to international powers for economic assistance.
 - During this period, **the U. took the country off the list of state sponsors of terrorism**. Reforms at home and international recognition suggested that Sudan was on a slow but steady transition into full democracy.
 - The army struck back almost immediately, killing scores of people. An uneasy **alliance of generals and technocrats, headed by Mr Hamdok, governed from August 2019 up to the coup October 2021**.
 - That so-called transitional government was supposed to pave the way to elections. **They now look further off than ever**.

- Since the recent coup (2021) the protestors have been protesting against the coup and for a democratic government.
- **Russia and China Angle:**
- **Russia's Supplies:**
 - An added complication is Russia's support for the generals. Wagner, a mercenary outfit acting in the interests of Russia, has **supplied training for militias and other goodies**.
 - Russia has also shielded Sudan at the **United Nations (UN)**, playing its usual spoiler role against the West.
 - **China's Investments:**
 - China's **extensive investments** in Sudan have also afforded army protection; China **favours stability over good governance**.

Prohibition of Attacks against Nuclear Installations and Facilities: India-Pakistan

Why in News

Recently, India and Pakistan have **exchanged a list of their nuclear installations**.

- The exchange was in accordance with the Article-II of Agreement on **Prohibition of Attacks against Nuclear Installations and Facilities** between Pakistan and India.
- The two countries also **exchanged lists of prisoners** held in each other's prisons under the provisions of the **Agreement on Consular Access signed in May 2008**.
 - Under this pact, the two countries should exchange comprehensive lists on 1st January and 1st July every year.

Key Points

- **Prohibition of Attacks against Nuclear Installations and Facilities:**
 - **About:**
 - According to this agreement, **both countries have to inform each other of the nuclear facilities**.
 - The agreement was signed in 1988 and ratified in 1991.
 - This was the **31st consecutive exchange** of the list between the two neighboring countries.

○ **Coverage:**

- Nuclear power and research reactors, fuel fabrication, uranium enrichment, isotopes separation and reprocessing facilities, as well as any other installations with fresh or irradiated nuclear fuel and materials in any form and establishments storing significant quantities of radioactive materials, **are all included under the umbrella term “nuclear installations and facilities”.**

➤ **Significance of the Agreement:**

- The need for the agreement had been felt **against the backdrop of Israel’s 1981 bombing** of Iraq’s Osirak reactor near Baghdad. The strike, carried out by Israeli fighter jets over hostile airspace, had set Iraq’s nuclear weapons programme significantly.
- The agreement had also come at a time of deep anxiety for Pakistan.
 - Islamabad had been rattled by the memory of the 1972 defeat which dismembered the country, and military developments in India, such as Operation Brasstacks in 1987, which was a wargame exercise to prepare for deep strike offensive capabilities. Pakistan had at the time responded by putting its nuclear installations and assets on ‘high alert’.

Current Issues in India-Pakistan Relations

➤ **Cross Border Terrorism:**

- **Terrorism emanating from territories** under Pakistan’s control remains a core concern in bilateral relations.
- India has consistently stressed the need for Pakistan to take credible, irreversible and verifiable action to end cross border terrorism against India.

➤ **Indus Water Treaty:**

- Every now and then, **there is an uproar in India for abrogating the Indus Water Treaty** as a response to Pakistan’s **cross-border terrorism** and tenacity.
 - It is a treaty brokered by the **World Bank**, which administers how the waters of the Indus and its tributaries that flow in both the countries will be utilised.

➤ **Siachen Glacier:**

- Siachen is regarded as the **world’s highest, deadliest and costliest battlefield.**

- Decades of military operations have **damaged the glacier and the surrounding environment.**

- But due to the complex nature of Indo-Pak relations and the distrust between the two countries, there has been no decision on the matter yet.

➤ **Sir Creek:**

- It is a **96 km long strip of water disputed** between India and Pakistan in the Rann of Kutch marshlands.

- The dispute lies in the **interpretation of the maritime boundary line between Kutch and Sindh.**

- Pakistan claims the line to **follow the eastern shore of the estuary** while **India claims a centerline** (differing interpretations of paragraphs 9 and 10 of the Bombay Government Resolution of 1914 signed between the then Government of Sindh and Rao Maharaj of Kutch).

➤ **Reorganization of Jammu & Kashmir:**

- It also **created a crisis in Kashmir-centric Pakistan** as at one go, the large territory of Ladakh was disassociated from the Kashmir dispute.

- Pakistan’s frustration showed in its desperate attempts to push terrorism and failed effort to gather international support against this move by India.

Pledge to Stop Nuclear Proliferation: Permanent Five of UNSC

Why in News

Recently, the Five permanent **United Nations Security Council** members (China, France, Russia, the U.K. and US) pledged to prevent atomic weapons spreading and to avoid nuclear conflict.

- The pledge was made in a rare joint statement ahead of a review of the **Non-Proliferation Treaty (NPT) 1970.**

- The statement comes as **tensions between Russia and the US** have reached heights rarely seen since the **Cold War** over a troop **build-up by Russia** close to the Ukrainian border.

- The statement also comes as the **world powers seek to reach agreement with Iran** on reviving the **Joint Comprehensive Plan of Action (JCPOA) 2015** over its controversial nuclear drive, which was rendered dying by the US walking out of the accord in 2018.

Key Points

➤ The Pledge:

- The further **spread of such weapons must be prevented**. A nuclear war cannot be won and must never be fought.
- The avoidance of war between nuclear-weapon states and the **reduction of strategic risks as our foremost responsibilities**.
- Nuclear weapons — for as long as they continue to exist — **should serve defensive purposes, deter aggression, and prevent war**.
- They intend to maintain and further strengthen their national measures to prevent unauthorised or unintended use of nuclear weapons.

➤ China's Stand:

- It **raised concerns that tensions with the US could lead to conflict**, notably over the island of Taiwan.
 - China considers Taiwan part of its territory and has vowed to one day seize it, by force if necessary.

➤ Russia's Stand:

- Russia welcomed the declaration by the atomic powers and expressed hope it would reduce global tensions.

Non-Proliferation Treaty

➤ About:

- The NPT is an **international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology**, to foster the peaceful uses of nuclear energy, and to further the goal of disarmament.
- The treaty was **signed in 1968 and entered into force in 1970**. Presently, it has 190 member states.
 - India is not a member.
- It **requires countries to give up any present or future plans to build nuclear weapons** in return for access to peaceful uses of nuclear energy.
- It represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States.
- **Nuclear-weapon states parties** under the NPT are defined as those that manufactured and exploded a nuclear weapon or other nuclear explosive devices before 1st January, 1967.

➤ India's Stand:

- India is **one of the only five countries that either did not sign the NPT** or signed but withdrew later, thus becoming part of a list that includes **Pakistan, Israel, North Korea, and South Sudan**.
- India always considered the NPT as **discriminatory** and had refused to sign it.
- India has **opposed the international treaties** aimed at non-proliferation since they were selectively applicable to the non-nuclear powers and legitimised the monopoly of the five nuclear weapons powers.

➤ Issues Related to NPT:

○ Failure of Disarmament Process:

- The NPT is largely seen as a Cold War era instrument that has **failed to fulfil the objective of creating a pathway towards a credible disarmament process**.
- Treaty proposes **no tangible disarmament roadmap**, no reference to test ban or to the freezing of production of either fissile materials or nuclear weapons, and omitted provisions for reductions and elimination.
- It **instead allowed sustenance and expansion of arsenals** by stipulating January, 1967 as the cut-off date to determine the NWS.

○ System of Nuclear 'Haves' and 'Have-Nots':

- **Non-Nuclear Weapon states (NNWS)** criticize the treaty to be discriminatory as it focuses on preventing only **horizontal proliferation** while there is no limit for vertical proliferation.
 - **Vertical proliferation** can be defined as the advancement or modernization of a nation-state's nuclear arsenal, whereas **horizontal proliferation** is the direct or indirect transfer of technologies from one nation-state to another, which ultimately leads to the more advanced development and proliferation of nuclear weapons.
 - As there is **no explicit obligation on part of NWS to reduce their arsenal**, NWS have continued to expand their respective arsenals without any constraints.
- In this context, NNWS groupings demand that the Nuclear-Weapon States (NWS) should renounce their arsenals and further production in return for commitment of NNWS not to produce them.

- Due to this tussle, most of the quadrennial **Review Conferences (RevCon)**, the forum that reviews the health and functioning of the treaty, has remained largely inconclusive since 1995.
- **Post-Cold War Challenges:**
 - The treaty’s existential challenges began in the post-Cold War setting when the **attempts by a few State Parties to break-out or gain nuclear latency led to numerous instances** of non-compliance, violations and defiance.
 - For example, the US alleges Iran of building nuclear Weapons of Mass Destruction.
 - The **NPT’s indefinite extension in 1995**, while invoking its irreplaceability, also underlined the inability of states to formulate a stand-alone instrument towards the objective of disarmament, as enshrined in the NPT.
 - The **emergence of non-state actors** with declared intent to access weapons of mass destruction and the detection of a global nuclear black-market, has raised concerns on the limitations of the treaty to address the challenges thrown up by the new strategic milieu.
- This responsibility includes cooperating with local authorities in combating illegal border crossings.
- The law **prohibits any party from indulging in any activity** in the border area which would “endanger national security or affect China’s friendly relations with neighbouring countries”.
- Even citizens and local organisations are mandated to protect and defend the border infrastructure.
- Finally, the law provides for the **border to be sealed in the event of a war**, armed conflict, incidents which threaten the security of border residents such as biological and chemical accidents, natural disasters, and public health incidents.
- **International Cooperation:**
 - On the topic of its border-sharing countries, the law lays down that the relations with these countries is to be based on **principles of “equality and mutual benefit”**.
 - Further, the law provides for **provisions for formation of joint committees, both civil and military**, with the said countries to negotiate land border management and resolve border-related issues.
 - The law also stipulates that PRC should abide by the treaties on land borders that it has signed with the respective countries and all border issues are to be settled through negotiations.

China’s New Border Law

Why in News

China’s new law on land borders came into effect from 1st January, 2022.

- It comes at a time when **border standoff in eastern Ladakh remains unresolved** and **several places in Arunachal Pradesh have been renamed** recently by China as part of its claim on the Indian state.

Key Points

➤ **About:**

- **Delimitation and Survey of Land Borders:**
 - The new law lays down that the People’s Republic of China (PRC) shall set up **boundary markers on all its land borders** to clearly mark the border.
- **Management and Defence of Border Areas:**
 - The People’s Liberation Army (PLA) and Chinese People’s Armed Police Force are **assigned with the responsibility of maintaining security** along the border.

➤ **Concerns:**

- **Formalise the Chinese Military’s Transgressions:**
 - The broader aim of the land border law is to **give legal cover and formalise the Chinese military’s transgressions** across the LAC (Line of Actual Control) in 2020.
- **Fresh Impetus to Civilian Agencies:**
 - The law calls for **increased settlement of the civilian population** and improved infrastructure along the border area.
 - China has previously used the strategy of moving its “civil” population along the contested part of the LAC on the basis of which it claims rightful ownership.

- The new law might increase such instances and create further problems between the two countries.
- **Limiting the Water Flow:**
 - There is also the possibility of **limiting the water flow in the Brahmaputra or Yarlung Zangbo river** which flows from China into India as the law calls for “measures to protect the stability of cross-border rivers and lakes”.
 - China might **cite this provision in case of hydropower projects** which may cause ecological disaster in India and call it a lawful action on its part.
- **China’s Border Disputes:**
 - China has a 22,100-kilometer land border with 14 countries.
 - It has resolved the boundary disputes with 12 neighbours.
 - India and Bhutan are the two countries with which China is yet to finalise the border agreements.
 - China and Bhutan signed an MOU firming up a three-step roadmap for expediting the boundary negotiations.
 - India-China border disputes cover 3,488-km along the **Line of Actual Control**, China-Bhutan dispute covers about 400 km.

Key Points

- **About:**
 - The Dalai Lama **belongs to the Gelugpa tradition of Tibetan Buddhism**, which is the largest and most influential tradition in Tibet.
 - There have been **only 14 Dalai Lamas in the history of Tibetan Buddhism**, and the first and second Dalai Lamas were given the title posthumously.
 - The 14th and current Dalai Lama is **Tenzin Gyatso**.
 - The Dalai Lamas are believed to be **manifestations of Avalokiteshvara or Chenrezig**, the Bodhisattva of Compassion and the patron saint of Tibet.
 - Bodhisattvas are realized beings inspired by a wish to attain Buddhahood for the benefit of all sentient beings, who have vowed to be reborn in the world to help humanity.
- **Dalai Lama’s Escort:**
 - The political landscape of China **started changing in the 1950s**.
 - Plans were made to **bring Tibet officially under Chinese control**. But in March 1959, Tibetans took to the streets demanding an end to Chinese rule. Chinese People’s Republic troops crushed the revolt and thousands were killed.
 - The **Dalai Lama fled from Tibet to India with thousands of followers during the 1959 Tibetan uprising**, where he was welcomed by former Indian Prime Minister, Jawaharlal Nehru who gave him permission **to form the ‘Tibetan government in exile’ in Dharamsala (Himachal Pradesh)**.
- **Process to Choose Dalai Lama:**
 - Following the Buddhist belief in the **principle of reincarnation**, the current Dalai Lama is believed by Buddhists to be able to choose the body into which he is reincarnated.
 - That person, when found, will then become the next Dalai Lama.
 - According to Buddhist scholars it is the **responsibility of the High Lamas of the Gelugpa tradition and the Tibetan government** to seek out and find the next Dalai Lama following the death of the incumbent.
 - If more than one candidate is identified, the true successor is found by officials and monks drawing lots in a public ceremony.

Dalai Lama

Why in News

Recently, the **last surviving member of a small troop** of Indian soldiers **who escorted the Dalai Lama** as he fled from Tibet in 1959 has died.

- Once identified, the successful candidate and his family are taken to Lhasa (or Dharamsala) where the child studies the Buddhist scriptures in order to prepare for spiritual leadership.
- This process can take several years: it took four years to find the 14th (current) Dalai Lama.
- The search is generally limited to Tibet, although the current Dalai Lama has said that there is a chance that he will not be reborn, and that if he is, it will not be in a country under Chinese rule.

Tibet and Dalai Lama: Impact on India-China Relations

➤ **Background:**

- For centuries, **Tibet was India's actual neighbour**, as most of India's boundaries and the 3500km **LAC (Line of Actual Control)** is with the Tibetan Autonomous Region, and not the rest of China.
- In 1914, it was **Tibetan representatives**, along with the Chinese that signed the **Simla convention** with British India that delineated boundaries.
- However, after **China's full accession of Tibet in 1950**, that China repudiated the convention and the **McMahon line** that divided the two countries.
- Further, in 1954, India signed an agreement with China, agreeing to recognize Tibet as "**Tibet region of China**".

➤ **Current:**

- The Dalai Lama and Tibet is one of the **major irritants between India and China relations**.
- China considers the **Dalai Lama a separatist**, who has great influence over Tibetans.
- India seeks to use the **Tibetan card in order to counter China's continuing aggression** at the **Line of Actual Control**.
- In the event of **increasing tensions between India and China**, there has been a **shift in India's Tibet Policy**. This shift in the policy, earmarks the Indian government actively managing with the Dalai Lama in public forums.
- The shift in India's Tibet policy is **majorly focused on symbolic aspects**, but there are many challenges pertaining to India's Approach to Tibet Policy.

New Bridge: India & Nepal

Why in News

Recently, the Union Cabinet has cleared a plan to build a new bridge connecting India and Nepal over the **Mahakali river** and link **Dharchula in Uttarakhand with Nepal's Dharchula**.

Key Points

➤ **About**

- The bridge will be completed **within three years**. It **will strengthen the relationship between the two countries**.
- India and Nepal **share unique ties of friendship and cooperation**.
- The construction of the bridge **will help people living in Dharchula in Uttarakhand and in the territory of Nepal**.

➤ **Mahakali River:**

- It is also known as **Sharda river or Kali Ganga in Uttarakhand**.
- It joins **Ghagra river** in Uttar Pradesh, which is a tributary of Ganga.
- **River Projects:** Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.

India - Nepal Relations

➤ **Historical Ties:**

- Nepal is an important neighbour of India and occupies **special significance in its foreign policy because of the geographic, historical, cultural and economic linkages/ties** that span centuries.
- India and Nepal **share similar ties in terms of Hinduism and Buddhism** with Buddha's birthplace Lumbini located in present day Nepal.

- The two countries not only share an open border and unhindered movement of people, but they also have close bonds through marriages and familial ties, popularly known as **Roti-Beti ka Rishta**.
- The India-Nepal **Treaty of Peace and Friendship of 1950** forms the bedrock of the special relations that exist between India and Nepal.
- Importance for India can be studied from two different angles: a) their **strategic importance for India's national security**; and b) their place in **India's role perception in international politics**.
- Rivers originating in Nepal feed the **perennial river systems** of India in terms of ecology and hydropower potential.
- **Trade and Economy:**
 - India is Nepal's **largest trade partner** and the largest source of foreign investments, besides providing transit for almost the entire third country trade of Nepal.
- **Connectivity:**
 - Nepal being a landlocked country, it is **surrounded by India from three sides and one side is open towards Tibet** which has very limited vehicular access.
 - India-Nepal has undertaken various **connectivity programs to enhance people-to-people linkages and promote economic growth** and development.
 - MOUs have been signed between both the governments for laying an electric rail **track linking Kathmandu with Raxaul in India**.
 - India is looking to develop the inland waterways for the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal calling it linking **Sagarmatha (Mt. Everest) with Sagar (Indian Ocean)**.
- **Defence Cooperation**
 - Bilateral defence cooperation includes **assistance to Nepalese Army in its modernization** through provision of equipment and training.
 - The **Gorkha Regiments** of the Indian Army are raised partly by recruitment from hill districts of Nepal.
 - India from 2011, every year undertakes joint military exercise with Nepal known as **Surya Kiran**.
- **Cultural**
 - There have been initiatives to promote people-to-people contacts in the area of art & culture, academics and media with different local bodies of Nepal.
- India has signed three **sister-city agreements** for twinning Kathmandu-Varanasi, Lumbini-Bodhgaya and Janakpur-Ayodhya.
 - A sister city or twin town relationship is a form of legal or social agreement between two geographically and politically distinct localities.
- **Humanitarian Assistance**
 - Nepal lies in a sensitive ecological fragile zone which is prone to **earthquakes, floods** causing massive damage to both life and money, whereby it remains the biggest recipient of India's humanitarian assistance.
- **Multilateral Partnership**
 - India and Nepal share multiple multilateral forums such as BBIN (Bangladesh, Bhutan, India, and Nepal), **BIMSTEC** (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation), **Non Aligned Movement, and SAARC** (South Asian Association for Regional Cooperation) etc.
- **Issues & Challenges**
 - **China's Intervention:**
 - As a landlocked nation, Nepal depended for many years on Indian imports, and India played an active role in Nepal's affairs.
 - However, in recent years, Nepal has drifted away from India's influence, and China has gradually filled the space with investments, aid and loans.
 - China considers Nepal a key partner in its **Belt and Road Initiative (BRI)**, and wants to invest in Nepal's infrastructure as part of its grand plans to boost global trade.
 - Rising Nepal and China cooperation can undermine Nepal's distinction of buffer state between India and China.
 - China on the other hand wants to avoid the formation of any Anti-China stance by the Tibetans living in Nepal.
 - **Border Dispute:**
 - The **issue erupted in November 2019** when Nepal had released a new political map that claims Kalapani, Limpiyadhura and Lipulekh of Uttarakhand as part of Nepal's territory. The area of Susta (West Champaran district, Bihar) can also be noted in the new map.

MoU in the field of Disaster Management: India -Turkmenistan

Why in News

Recently, a **Memorandum of Understanding (MoU)** was signed between **India and Turkmenistan** on Cooperation in the field of **Disaster Management**.

Key Points

- **About:**
 - The MoU seeks to put in place a system whereby **both countries will benefit from the Disaster Management mechanisms** of each other.
 - It will **help in strengthening the areas of preparedness**, response and capacity building in the field of Disaster Management.
 - India currently has **bilateral or multilateral agreements, MoUs, joint declaration of Intent or Memorandums of Cooperation** in disaster management with Switzerland, Russia, Germany, Japan, Tajikistan, Mongolia, Bangladesh, Italy and **South Asian Association for Regional Cooperation (SAARC)**.
- **India -Turkmenistan Relations:**
 - Turkmenistan **shares borders** with Kazakhstan in the north, Uzbekistan in the north and North-east, Iran in the South and Afghanistan in the Southeast.

- India's '**Connect Central Asia**' policy 2012 envisages deeper mutual relations with the region and energy linkage is an important component of the policy.
- **India has joined the Ashgabat agreement**, which envisages setting up of an international transport and transit corridor linking central Asia with the Persian Gulf to significantly ramp up trade and investment.
- India considers the **TAPI pipeline** (Turkmenistan, Afghanistan, Pakistan and India) a '**key pillar**' in its economic relations with Turkmenistan.
- In 2015, **Hindi Chair was established in Azadi Institute of World languages, Ashgabat** where Hindi is being taught to university students.
- India provides training for Turkmen nationals under **ITEC (Indian Technical and Economic Cooperation) programme**.
- Turkmenistan **supports India's permanent position in the UN Security Council**.
- Turkmenistan is a USD 40 billion plus economy, but the bilateral trade with India is below its potential. India can increase its economic presence in Turkmenistan, particularly in the **Information and communication technologies (ICT) sector**. This would help maintain the future balance of trade.
- Recently, the 3rd meeting of the **India-Central Asia Dialogue** was held in New Delhi.
 - It is a ministerial-level dialogue between India and the **Central Asian** countries namely **Kazakhstan, Kyrgyzstan**, Tajikistan, Turkmenistan and Uzbekistan.

Homeland Security Dialogue between India and US

Why in News

- Recently, a **Homeland Security Dialogue** was held between the officials of India and US.
- In October 2021 the Ministry of Defence signed a **deal with the US Government** for procurement of MK 54 Torpedo and Expendable (Chaff and Flares) for the Indian Navy, under Foreign Military Sale (FMS).
 - In July 2021 the **US Secretary of State visited India**.

Key Points

➤ **About:**

- The Indo-US homeland security dialogue was **launched in 2010** as the mechanism to a sequel to the signing of the India-US counter-terrorism initiative.
 - First Homeland Security Dialogue was held in May 2011.
- The latest virtual meeting came after in **March 2021**, the US President Joe Biden administration had announced the **re-establishment of the Homeland Security Dialogue** which was discontinued by former US President Donald Trump's administration.
- There are **six sub-groups formed under the Indo-US homeland security dialogue** which cover the areas of:
 - Illicit finance, Financial fraud and counterfeiting.
 - Cyber information.
 - Megacity policing and sharing of information among federal, state and local partners.
 - Global supply chain, transportation, port, border and maritime security.
 - Capacity building.
 - Technology upgradation.

➤ **India- US Relations:**

- **About:**
 - India-US bilateral relations have developed into a **“global strategic partnership”**, based on shared democratic values and increasing convergence of interests on bilateral, regional and global issues.
 - In 2015, both the countries issued a **Delhi Declaration of Friendship** and adopted a **Joint Strategic Vision for Asia-Pacific** and the **Indian Ocean Region**.
- **Civil-Nuclear Deal:**
 - The **bilateral civil nuclear cooperation** agreement was signed in October 2008.
- **Energy and Climate Change:**
 - As a priority initiative under the **PACE (Partnership to Advance Clean Energy)**, the US Department of Energy (DOE) and the Government of India have established the **Joint Clean Energy Research**

and Development Centre (JCERDC) designed to promote clean energy innovations by teams of scientists from India and the United States.

- **India-US Clean Energy Agenda 2030 Partnership** was launched at the Leaders climate summit 2021.

○ **Defence Cooperation:**

- Defence relationship has emerged as a major pillar of India-US strategic partnership with the signing of **‘New Framework for India-US Defence Relations’** in 2005 which was further updated for 10 years in 2015.
- India and US inked important defence pacts in the last few years and also formalised the four nation alliance of **QUAD** (India, US, Japan and Australia).
 - The alliance is seen as an **important counter to China in the Indo-Pacific**.
- The **Malabar exercise** in November 2020 portrayed a high point in Indo-US strategic ties, it was the first time in 13 years that all four countries of QUAD came together sending a strong message to China.
- India now has access to American bases from **Djibouti in Africa** to Guam in the Pacific. It can also access advanced communication technology used in US defence.
- India and US have **four foundational defence agreements:**
 - **Basic Exchange and Cooperation Agreement for Geospatial Intelligence (BECA)**.
 - **General Security of Military Information Agreement (GSOMIA)**.
 - **Logistics Exchange Memorandum of Agreement (LEMOA)**.
 - **Communication Compatibility and Security Agreement (COMCASA)**.
- **India-US Counter-Terrorism Cooperation Initiative** was signed in 2010 to expand collaboration on counter-terrorism, information sharing and capacity building.
- A tri-services exercise– **Tiger Triumph**- was conducted in November 2019.

- Bilateral and regional exercises include: **Yudh Abhyas** (Army); **Vajra Prahar** (Special Forces); **RIMPAC**; **Red Flag**.
- **Trade:**
 - The US is India's second largest trading partner and a major destination for India's exports of goods and services.
 - The US replaced Mauritius as the second largest source of **foreign direct investment** into India during 2020-21.
 - The previous US government **ended India's special trade status (GSP withdrawal)** and also imposed several bans, India also retaliated with bans on 28 US products.
- Current US government has allowed all the bans by the previous government to expire.
- **Science & Technology:**
 - **Indian Space Research Organisation** and **National Aeronautics and Space Administration (NASA)** are working together to realise a joint microwave remote sensing satellite for Earth observation, named **NASA-ISRO Synthetic Aperture Radar (NISAR)**.
- **Indian Diaspora:**
 - There is a growing presence of Indian diaspora in all spheres in the US. For example the **current Vice-President (Kamala Harris)** of the US has a strong Indian connection.



Social Issues

Highlights

- Recognition of Transgender Persons in Indian Prisons
- Faecal Sludge and Septage Management
- Prohibition Laws and Issues
- Guidelines for Universal Accessibility
- NEAT Initiative

Recognition of Transgender Persons in Indian Prisons

Why in News

Recently, the Union Home Ministry sent an **advisory to Heads of Prisons in the States/UTs** to ensure privacy, dignity of the third gender inmates.

- According to a **National Crime Records Bureau**, there were 70 transgender prisoners in jails across the country in 2020.
- The advisory was issued in light of the **Transgender Persons (Protection of Rights) Act, 2019**, which came into effect from January 2020.

Key Points

- **Infrastructure in Prisons:**
 - Separate enclosures or wards and separate toilets and shower facilities for transmen and transwomen to preserve the right to privacy and dignity of the inmates.
- **Respect Self-identity:**
 - The self-identity of transgender persons must be respected at all times while conducting admission procedures, medical examination, frisking, clothing, requisitioning of a police escort, treatment and care inside prisons.
 - **Prisons to facilitate the process of acquiring the transgender identity certificate** under the transgender persons law if such a request is made.
- **Search Protocol:**
 - Searches should be carried out by a **person of their preferred gender** or by a trained medical professional or a paramedic trained in conducting searches.

- The person **conducting the search must ensure the safety**, privacy and dignity of the person being searched.

➤ Admission in Prison:

- The prison admission register may be suitably revised to include **“transgender” as a category other than male and female gender**.
- A similar provision may be made in the **Prison Management System in maintaining electronic records**.

➤ Access to Healthcare:

- Transgender inmates **should have equal right to healthcare**, without any discrimination on grounds of their gender identity.

➤ Communication with outside World:

- They must be **allowed an opportunity to interact with their family members, relatives, friends and legal advisers** and after-care planning by probation, welfare or rehabilitation officers.

➤ Training and Sensitisation of Prison Personnel:

- It should be done for developing an understanding of gender identity, human rights, sexual orientation and legal frameworks for transgender persons.
- Similar awareness must also be spread among other prisoners.

Major Initiatives Related to Transgender

➤ Transgender Persons Act, 2019:

- The Act defines a transgender person as one whose gender does not match the gender assigned at birth. It includes transmen and trans-women, persons with intersex variations, gender-queers, and persons with socio-cultural identities, such as kinnar and hijra.

- **Judgements of the Supreme Court:**
 - **National Legal Services Authority (NALSA) v. Union of India, 2014:** The SC declared transgender people to be a 'third gender'.
 - **Read down the Provisions of Section 377 of the Indian Penal Code (2018):** The SC decriminalised same-sex relationships.
- **Transgender Persons (Protection of Rights) Rules, 2020:**
 - The Central Government made the rules under the powers conferred by the Transgender Persons (Protection of Rights) Act, 2019.
 - **National Portal for Transgender Persons** was launched under in consonance with the Transgender Persons (Protection of Rights) Rules, 2020.
- Scheme of **'Shelter Home for Transgender Persons:**
 - To provide safe and secure shelter to transgender persons in need, the Ministry of Social Justice and Empowerment is setting up 'Garima Greh' shelter homes for them.

Prisons Act and Transpersons

- In India, the Prisons Act, 1894, is the central legislation regulating the administration of prisons.
- The Act majorly differentiates prisoners convicted under civil law from those convicted under criminal law.
- Unfortunately, the Act **does not even recognise sexual minorities based on Sexual Orientation and Gender Identity (SOGI)** as a different class of prisoners.
- It only separates prisoners into the categories of women, young offenders, undertrials, convicts, civil prisoners, detainees and high-security prisoners.
- The **NALSA judgment**, while extending constitutional protection to trans persons under **Articles 14, 15, and 21**, directs states to make policies on their legal and socio-economic rights.
- This extends to trans prisoners as well, since **prisons and their administration is a state subject**.
- Even though the directions given in the NALSA judgment constitute the law of the land, there is still a requirement to bring forth changes in the present laws.
- The Prisons Act, however, **allows the prison authorities to follow procedures that are strictly gender-binary**.

- These procedures not only challenge the validity of the legislation but also result in a kind of torture and degrading treatment being inflicted upon trans people inside prisons.
- All of this is substantiated by a report titled **'Lost Identity: Transgender Persons Inside Indian Prisons'** by the **Commonwealth Human Rights Initiative (CHRI)**.
 - This report sheds light on issues faced by Transgender persons confined in Indian prisons.

Faecal Sludge and Septage Management

Why in News

According to the **NITI Aayog** report **Faecal sludge and septage management in urban areas, Service and business models, by 2021** more than 700 cities/towns are in various stages of **Faecal Sludge and Septage Management (FSSM)** implementation..

Key Points

- **Faecal Sludge and Septage Management (FSSM):**
 - **About:**
 - India has **recognized the gaps in sanitation coverage** and embarked purposefully to address them, becoming one of the first countries to announce a national policy on FSSM in 2017.
 - FSSM **prioritizes human excreta management**, a waste stream with the highest potential for spreading diseases.
 - It is a **low-cost and easily scalable sanitation solution** that focuses on safe collection, transportation, treatment, and reuse of human waste.
 - As a result, FSSM promises a means to achieve the **Sustainable Development Goals (SDG) target 6.2 of adequate and inclusive sanitation** for all in a time bound manner.
 - **Related Initiatives:**
 - India has **continued to show its commitment towards FSSM** through the launch of **Open Defecation-Free (ODF) + and ODF++ protocols**, an emphasis on FSSM in **Swachh Survekshan**, as well as financial allocations for FSSM across

Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and National Mission for Clean Ganga (NMCG) missions.

- **Capacity of India's Sewage Treatment Plants:**
 - According to the latest report of the **Central Pollution Control Board (CPCB), Sewage Treatment Plants (STPs)** in India are able to treat a little more than a third of the sewage generated per day.
 - India generated **72,368 MLD (million litres per day)** whereas the installed capacity of STPs was 31,841 MLD (43.9%).
 - **5 states and Union Territories (UT)** - Maharashtra, Gujarat, Uttar Pradesh, Delhi and Karnataka - **account for 60% of the total installed treatment capacity** of the country.
- **Issues with Solid Waste Management:**
 - Absence of segregation of waste at source.
 - Lack of funds for waste management at Urban Local Bodies (ULB).
 - Lack of technical expertise and appropriate institutional arrangement.
 - Unwillingness of ULBs to introduce proper collection, segregation, transportation and treatment/disposal systems.
 - Indifference of citizens towards waste management due to lack of awareness.
 - Lack of community participation towards waste management and hygienic conditions.

Prohibition Laws and Issues

Why in News

Recently, the Bihar Government has decided to use **Drones** to monitor illegal liquor manufacturing.

- This has initiated the debate of the utility of using physical and financial resources to implement the provisions of the prohibition act.

Key Points

- **About:**
 - Prohibition is the **act or practice of forbidding something by law**; more particularly the term refers to the banning of the manufacture, storage (whether in barrels or in bottles), transportation, sale, possession, and consumption of alcoholic beverages.

○ **Constitutional Provisions:**

- **Article 47:** The Directive Principle in the Constitution of India states that "The **state shall undertake rules to bring about prohibition of the consumption** except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health".
- **State Subject:** Alcohol is a **subject in the State list** under the **seventh schedule of the Indian Constitution**.

➤ **Other Prohibition Acts in India:**

- **Bombay Abkari Act, 1878:** The first hint at the prohibition of liquor was through the Bombay Abkari Act, 1878 (in the Province of Bombay).
 - This Act dealt with levying of duties on intoxicants, among other things and aspects of prohibition via amendments made in 1939 and 1947.
 - **Bombay Prohibition Act, 1949:** There were "many lacuna" in the Bombay Abkari Act, 1878, from the point of view of the government's decision to enforce prohibition.
 - This led to the birth of Bombay Prohibition Act, 1949.
 - The **Supreme Court (SC)** upheld the Act broadly barring a few sections in 1951 in the judgment of State of Bombay and another versus FN Balsara.
 - **Gujarat Prohibition Act, 1949:**
 - Gujarat adopted the prohibition policy in 1960 and subsequently chose to enforce it with greater rigidity, but also made processes easier for foreign tourists and visitors to get liquor permits.
 - In 2011, the Act was renamed as Gujarat Prohibition Act. In 2017, the Gujarat Prohibition (Amendment) Act was passed with provision of up to ten years jail for manufacturing, purchase, sale and transportation of liquor in the dry state.
 - **Bihar Prohibition Act, 2016:** The **Bihar Prohibition and Excise Act** was brought into effect in 2016.
 - Over 3.5 lakh people have been arrested under the stringent prohibition law since 2016 leading to crowded jails and clogged courts.
 - **Other States:** Alcohol prohibition in India is in force in the states of Mizoram, Nagaland as well as in the union territory of Lakshadweep
- **Arguments against Prohibition of Liquor:**

- **The Right of Privacy:**
 - Any invasion by the state in an **individual's right to choice of food and beverage** amounts to an **unreasonable restriction** and **destroys the individual's decisional and bodily autonomy**.
 - **Right to privacy** has been held as a fundamental right by the Supreme Court in several judgments since 2017.
- **Aggravate the Sense of Violence:** Various research and studies have shown that alcohol tends to aggravate the sense of violence.
 - Most of the domestic violence crimes against women and children are committed behind closed doors.
- **Loss of Revenue: Tax revenues from alcohol** is a major part of any government's revenues. These enable the government to finance several public welfare schemes. Absence of these revenues may severely impacts state's ability to run public welfare programmes.
- **Source of Employment:** Today, the Indian Made Foreign Liquors (IMFL) industry contributes over 1 lakh crore in taxes every year. It supports the livelihood of lakhs of farming families and provides direct and indirect employment to lakhs of workers employed in the industry.
- **Arguments in Favour of Liquor Prohibition :**
 - **Impact on Livelihoods:** Alcohol **denudes family resources and reserves** and leaves women and children as its most vulnerable victims. A social stigma at least as far as the family unit is concerned is still attached to the consumption of alcohol.
 - **Discourage Regular Consumption:** Strict state regulation is imperative to discourage regular and excessive consumption of alcohol.
 - As the prohibition is mentioned in the State List under Schedule Seven, it is the duty of the state to make provisions related to prohibition.

The **new rules** envisage changes from the design plan to the implementation.

- Apart from this, **various aspects of the built environment have been covered** under the new guidelines for universal accessibility.
- Earlier, in 2021 the Ministry of Information and Broadcasting had issued **draft guidelines for new accessibility standards**.

Central Public Works Department of India

- The Central Public Works Department of India (CPWD), is a **premier Central Government authority in charge of public sector works**.
- It comes under the **Ministry of Housing and Urban Affairs (MoHUA)**.
- It deals with buildings, roads, bridges, flyovers, complicated structures like stadiums, auditoriums, laboratories, bunkers, border fencing, border roads (hill roads), etc.
- It was **established by Lord Dalhousie in 1854**.

Key Points

- **About the New Guidelines:**
 - The guidelines are a revision of the **Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons** released in 2016.
 - Earlier, the guidelines were for creating a **barrier-free environment, but now we are focusing on universal accessibility**.
 - **Universal Accessibility** refers to the degree to which the environment, products, and services are accessible to people with disabilities.
 - The term **barrier-free design** used to describe the effort of removing physical barriers from the "built environment" for people with disabilities.
 - The **guidelines are not just for Persons with Disabilities (PwD)**, but for those involved in planning projects, from the construction of government buildings to master-planning cities.
 - **Nodal Ministry:** Ministry of Housing and Urban Affairs (MoHUA).
- **Constitutional and Legal Framework for Disabled People:**
 - **Article 14:** The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.

Guidelines for Universal Accessibility

Why in News

Recently, the **Central Public Works Department (CPWD)** released the **new Harmonised Guidelines and Standards for Universal Accessibility** in India 2021.

- In this context, Persons with Disabilities should have similar and equal rights in the eyes of the Constitution.
- **UN Convention the Right of Persons with Disabilities:** India is a signatory to the **United Nations Convention the Right of Persons with Disabilities**, which **came into force in 2007**.
 - The Convention recognizes accessibility as a human right and requires signatories to adopt appropriate measures to ensure access by persons with disabilities.
- **Accessible India Campaign:** The '**Accessible India Campaign**' also known as the **Sugamya Bharat Abhiyan** to enable Persons with disabilities to gain universal access, equal opportunity for development.
 - The campaign seeks to enhance accessibility by making significant changes to the infrastructure, information and communication systems.
- **Rights of Persons with Disabilities Act, 2016:** The Government of India enacted **The Rights of Persons with Disabilities Act, 2016**, which is the principal and comprehensive legislation concerning persons with disabilities.
 - The Act defines the responsibilities of the Central and State governments with regard to the services for persons with disabilities.
 - The Act also recommends creating a barrier-free environment by removing all types of discrimination against persons with disabilities where they can share the development benefits which a normal person enjoys.
- **Other Related Initiatives:**
 - **Deen Dayal Disabled Rehabilitation Scheme**
 - **National Fellowship for Students with Disabilities.**
 - **Unique Disability Identification Project**
 - **International Day of Persons with Disabilities**

Disability

➤ About:

- Disability is a term associated with some **specially-abled people** who sustain a condition that prevents him/her from doing things in the same way as the other people around him.

➤ Types of Disability:

- **Intellectual disability:** A person having an intellectual disability (ID) is seen to have **low intelligence or rational ability** which is evident in their lack of skills for the basic day to day activities.
- **Neurological and Cognitive Disorders:** People acquire this type of disability throughout their lifetime, either by a **bad brain injury or multiple sclerosis**.
 - In multiple sclerosis, the cells in a body are attacked by its immune system, thus creating a problem in communication between a body and its brain.
- **Physical Disability:** It is the most common type of disability found among specially-abled people.
 - These issues can range from the **circulatory system to the nervous system** and also the respiratory system.
 - Cerebral palsy is one such disability that happens because of brain damage and results in problems in movement. The symptoms of such a disability can be seen from birth.
- **Psychiatric Disability:** Such disorders in a person give rise to **anxiety disorders, depression, or various kinds of phobias** in a person.

NEAT Initiative

Why in News

Recently, the **Ministry of Human Resource Development (MHRD)** has announced a new **National Educational Alliance for Technology (NEAT 3.0)** to use **technology for better learning outcomes in Higher Education**.

Key Points

- **Model of NEAT Scheme:** It is based on a **Public-Private Partnership model** between the Government and the **Education Technology (Ed-Tech) companies of India**.
- **Objective:** The objectives of NEAT are to bring the best technological solutions in education pedagogy on a **single platform for the convenience of Economically and Socially weaker sections of society**.

- **Target Areas:** Technology solutions using **Artificial Intelligence** for customised learning or e-content in niche areas having highly employable skills are being identified for showcasing on the portal.
- **Modus Operandi:** Under this, the government plans to **distribute free coupons** for an array of courses offered by ed-tech companies.
- **Implementing Agency:** All India Council for Technical Education (AICTE).

All India Council for Technical Education (AICTE)

- It was set up in November 1945 as a **national-level apex advisory body**.
- Its purpose was to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner.
- According to the **National Policy of Education (1986)**, AICTE is vested with:
 - Statutory authority for planning, formulation, and maintenance of norms & standards,
 - Quality assurance through accreditation,
 - Funding in priority areas, monitoring, and evaluation,
 - Maintaining parity of certification & awards,
 - The management of technical education in the country.

Ed-Tech

- **About:** Edtech is the practice of introducing **IT tools into the classroom** to create a more engaging, inclusive and individualized learning experience.
- **Intended Benefits of Ed-Tech:** Technology holds promise and has incredible potential. It can help in:
 - Enabling greater personalisation of education
 - Enhancing educational productivity by improving rates of learning,
 - Reducing costs of instructional material and service delivery at scale

- Better utilisation of teacher/instructor time.
- **National Education Policy 2020:** India's new **National Education Policy (NEP) 2020** is responsive to the clarion call to integrate technology at every level of instruction.
 - It envisions the establishment of an autonomous body, the **National Education Technology Forum (NETF)**, to spearhead efforts towards providing a strategic thrust to the deployment and use of technology.
- **Scope:** The Indian ed-tech ecosystem has a lot of potential for innovation.
 - With over 4,500 start-ups and a current valuation of around **USD 700 million**, the market is geared for exponential growth — estimates project an astounding market size of **USD 30 billion in the next 10 years**.
- **Associated Issues With Ed-Tech:**
 - **Lack of Technology Access:** Not everyone who can afford to go to school can afford to have phones, computers, or even a quality internet connection for attending classes online.
 - According to National Sample Survey data for 2017-18, only **42% of urban and 15% of rural households** had internet access.
 - In this case, Ed-tech can increase the already existing digital divide.
 - **Contradiction with Right to Education:** Technology is not affordable to all, shifting towards online education completely is like taking away the **Right to Education** of those who cannot access the technology.
- **Related Steps Taken:**
 - **Digital Infrastructure for Knowledge Sharing (DIKSHA).**
 - **PM eVidya.**
 - Swayam Prabha TV Channel
 - **SWAYAM portal**



Science & Technology

Highlights

- Millimetre Wave band in 5G
- Securing Internet of Things
- Solid-State Batteries
- Open Source Software Platform
- Use of Drones Technology
- New ISRO Chairman S. Somanath

Millimetre Wave band in 5G

terms of coverage area and penetration of signals.

Why in News

Recently, **Satcom Industry Association-India (SIA)** has voiced concerns over the Government's plan to include the **Millimetre Wave (mm Wave) bands** in the **5G spectrum auction**

- SIA is an industry body that represents the interests of the communication satellite ecosystem in India.
- **Telecom Regulatory Authority of India (TRAI)** had sought industries' views on topics related to **quantum of spectrum to be auctioned off**.

Key Points

- **5G Technology:**
 - **About:**
 - 5G is the 5th generation mobile network. It is a new **global wireless standard after 1G, 2G, 3G, and 4G networks**. The 5G networks will **operate in the mm Wave spectrum**.
 - It **enables a new kind of network** that is designed to connect virtually everyone and everything together including machines, objects, and devices.
 - **Bands in 5G:** 5G mainly **work in 3 bands**, namely low, mid and high frequency spectrum — all of which have their own uses as well as limitations.
 - **Low band spectrum:** It has shown **great promise in terms of coverage and speed of internet** and data exchange however the maximum speed is limited to 100 Mbps (Megabits per second).
 - **Mid-band spectrum:** It offers **higher speeds compared to the low band**, but has limitations in

High-band spectrum: It has the **highest speed of all the three bands**, but has extremely limited coverage and signal penetration strength.

- **Internet speeds** in the high-band spectrum of 5G has been tested to be as **high as 20 Gbps (gigabits per second)**, while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.

➤ **Millimetre Wave-Band:**

○ **About:**

- It is a particular segment of the radio frequency spectrum that ranges between **24 GHz and 100 GHz**.
- This spectrum, as the name suggests, **has a short wavelength**, and is appropriate to deliver **greater speeds and lower latencies**. This in turn makes **data transfer efficient and seamless** as the current available networks work optimally only on lower frequency bandwidths.

○ **Significance:**

- 5G services can be deployed using lower frequency bands. They **can cover greater distances and are proven to work efficiently** even in urban environments, which are prone to interference.

- But, when it comes to data speeds, these bands fail to hit peak potential needed for a true 5G experience. So, **mmWave is that quintessential piece in the 5G jigsaw puzzle for mobile service providers.**
- **Effect on Satellite Industry:**
 - The Internet has largely been provided to users via fibre-optic based broadband connectivity or mobile network. Of late, another class of Internet vendors is showing up. These are **satellite-based communication service providers.**
 - This segment uses **Low-Earth Orbit (LEO)** satellites to provide broadband to both urban and rural users. Their service could also be used for weather predictions.
 - The mm- band had been the subject of controversy due to **out-of-band emissions into the passive satellite band used for weather satellites at 23.6-24 GHz.**
 - **Out-of-band emission** is emission on a frequency or frequencies immediately **outside the necessary bandwidth** which results from the modulation process.
 - The level of out-of-band emission can not be reduced without affecting the corresponding transmission of information.
- **Concerns Raised by the Industry:**
 - **Against ITU Norms:**
 - SIA urged the regulator **to limit the inclusion of mmWave spectrum in the 5G auction as 27.5-31 GHz and 17.7-21.2 GHz bands have been preserved for satellite-based broadband services** as per the decision taken by the **International Telecommunication Union (ITU).**
 - The industry body **pointed to Europe’s “5G Roadmap”**, which is built on the ITU’s decision to hold these bands for satellite-based broadband services.
 - **Denial of Benefits:**
 - It also noted that offering excessive spectrum resources in the upcoming 5G auction will result in **Indian citizens being denied the benefits of high-demand, advanced satellite broadband services.**
 - **Loss to Economy:**

- It will result in a **massive loss to the Indian economy** of up to USD 184.6 billion by 2030, along with the loss of **Foreign Direct Investment (FDI)** and employment generation benefits.

➤ **SIA’s Suggestions:**

- SIA-India has noted that the **330 MHz of spectrum in the 3.3-3.67 GHz band is enough to satisfy India’s mid-band 5G needs** while ensuring a competitive auction.
- The industry body also noted that **providing excess spectrum could pose a downside risk of the bands going unsold, or even worse**, underutilised by terrestrial players at the expense of satellite-based service providers. **The allocation of mmWave band is critical to the satellite communication industry, which needs a stronger regulatory support** to ensure that 5G operations don’t interfere with their existing operations.

Securing Internet of Things

Why in News

Recently, in order to secure **Consumer Internet of Things (IoT)** devices, **Telecommunication Engineering Centre (TEC)**, under Department of Telecommunications, Ministry of Communications, has released a report **“Code of Practice for Securing Consumer Internet of Things (IoT)”**.

- These guidelines will **help in securing consumer IoT devices & ecosystem** as well as managing vulnerabilities.

Key Points

➤ **Internet of Things:**

- **Definition:** It is a **computing concept** that describes the idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices.

- **One of Fastest Growing Technology:** It is one of the **fastest emerging technologies across the globe**, providing enormous beneficial opportunities for society, industry, and consumers.
- **Use of IoT:** It is being used to create smart infrastructure in various verticals such as **Power, Automotive, Safety & Surveillance, Remote Health Management, Agriculture, Smart Homes and Smart Cities** etc, using connected devices.
 - A smart device is a context-aware electronic device capable of performing autonomous computing and connecting to other devices wire or wirelessly for data exchange.
- **Supplementary Technologies:** IoT is benefitted by recent advances in several technologies such as sensors, communication technologies (Cellular and non-cellular), **Artificial intelligence/ Machine Learning, Cloud / Edge computing** etc.
- **Magnitude of IOT:** It has been projected that there would be around 11.4 billion consumer IoT devices and **13.3 billion enterprise IoT devices globally by 2025** i.e. consumer IoT devices would account for nearly 45% of all the IoT devices.
 - According to a market research report published by Markets and Markets, the global IoT security market size is expected to grow from **USD 8.2 billion in 2018 to USD 35.2 billion by 2023**.
- **Need For Guidelines:**
 - **Anticipated Growth:** In view of the anticipated growth of IoT devices, it is important to ensure that the IoT endpoints comply with the safety and security standards.
 - **Cyber-Security Attack:** The hacking of the devices/ networks being used in daily life would harm companies, organisations, nations and more importantly people.
 - Therefore securing the IoT ecosystem end-to-end i.e. from devices to the applications is very important.
 - Ensuring end to end security for connected IoT devices is key to success in this market -without security, IoT will cease to exist.
 - **Privacy Concerns:** There is in this data-driven future, a growing concern about the potential for increased government surveillance and the resulting encroachment of civil rights, and the suppression of dissent or of marginalised communities.
- **Consequences of Cyber Security Attack:** Possible consequences of such attacks could include:
 - Discontinuity and interruption to critical services/ infrastructure.
 - Infringement of privacy.
 - Loss of life, money, time, property, health, relationships, etc.
 - Disruptions of nationalscale including civil unrest.
- **Guidelines for securing consumer IoT:**
 - **No Universal Default Passwords:** All IoT device default passwords shall be unique per device and/ or require the user to choose a password that follows best practises, during device provisioning.
 - **Implement a means to manage reports of vulnerabilities:** IoT developers should provide a dedicated public point of contact as part of a vulnerability disclosure policy.
 - **Keep software updated:** Software components in IoT devices should be securely updateable.
 - **Securely store sensitive security parameters:** IoT devices may need to store security parameters such as keys & credentials, certificates, device identity etc. which are critical for the secure operation of the device.
 - **Communicate securely:** Security-sensitive data, including any remote management and control, should be encrypted in transit, appropriate to the properties of the technology and usage of the device.
 - **Minimise exposed attack surfaces:** Devices and services should operate on the 'principle of least privilege'.
 - The Principle of Least Privilege states that a **subject should be given only those privileges needed for it to complete its task**.
 - **Ensure that personal data is secure:** In case the device collects or transmits personal data, such data should be securely stored.
 - **Make systems resilient to outages:** Resilience should be built into IoT devices and services where required by their usage or by other relying systems.

Solid-State Batteries

Why in News

Car manufacturer Volkswagen plans to have production running for **solid-state batteries** by 2025 via the partnership with QuantumScape.

- QuantumScape’s solid-state battery — lithium metal with a solid electrolyte separating the two electrodes — is seen as an exceptionally bright prospect in an increasingly crowded space.

Key Points

- **About:**
 - A solid-state battery has **higher energy density than a Lithium-ion battery** that uses liquid electrolyte solution. It doesn’t have a risk of explosion or fire, so there is no need to have components for safety, thus saving more space. Then we have more space to put more active materials which increase battery capacity in the battery.
 - A solid-state battery can **increase energy density per unit area since only a small number of batteries are needed**. For that reason, a solid-state battery is perfect to make an **Electric Vehicle (EV)** battery system of module and pack, which needs high capacity.
 - The energy density of lithium-ion cells used in today’s mobile phones and electric vehicles is nearly four times higher than that of older-generation nickel-cadmium batteries.

- Despite improvements in technology over the last decade, issues such as **long charging times and weak energy density persist**. While lithium-ion batteries are seen as sufficiently efficient for phones and laptops, they still lack the range that would make EVs a viable alternative to internal combustion engines.

Lithium-ion Batteries

➤ About:

- It uses an intercalated (Intercalation is the reversible inclusion or insertion of a molecule into materials with layered structures) **lithium compound as one electrode material**, compared to the metallic lithium used in a non-rechargeable lithium battery.
- The battery consists of electrolyte, which allows for **ionic movement**, and the two electrodes are the constituent components of a lithium-ion battery cell.
- Lithium ions **move from the negative electrode to the positive electrode** during discharge and back when charging.

➤ Lithium-ion Battery Applications:

- Electronic gadgets, Tele-communication, Aerospace, Industrial applications.
- Lithium-ion battery technology has made it the favourite power source for electric and hybrid electric vehicles.

➤ Disadvantages of Li-ion Batteries:

- Long charging times.
- One major problem is that lithium metal is extremely reactive. Safety issues as instances of batteries catching fires have been there.
- Expensive to manufacture.
- While the Li-ion batteries are seen as sufficiently efficient for applications such as phones and laptops, in case of EVs, these cells still lack the range that would make them a viable alternative to internal combustion engines.

➤ Advantages Over Li-ion:

- **Higher Cell Energy Density:**
 - The advantages of the solid-state battery technology include **higher cell energy density** (by eliminating the carbon anode), lower charge time (by eliminating the need to have lithium diffuse into the carbon particles in conventional

lithium-ion cells), ability to undertake more charging cycles and thereby a longer life, and improved safety.

- **Cost Effective:**
 - Lower cost could be a game-changer, given that at 30% of the total cost, battery expenses are a key driver of the vehicle costs.
 - QuantumScape claims it is targeting to lower battery cost by 15-20% relative to the cost of lithium-ion batteries in several years.
- **Other Potential Alternatives to Solid-state Batteries:**
 - **Graphene Batteries:** Graphene batteries may be an important alternative to lithium-ion batteries, with the latter having limitations due to the frequency with which lithium requires charging. Graphene is a newly stabilised and isolated material.
 - **Fluoride Batteries:** Fluoride Batteries have the potential to last eight times longer than lithium batteries.
 - **Sand Battery:** This alternative type of lithium-ion battery uses silicon to achieve three times better performance than current graphite Li-ion batteries. The battery is still lithium-ion like the one found in a smartphone, but it uses silicon instead of graphite in the anodes.
 - **Ammonia-powered Batteries:** Ammonia-powered batteries may not be coming any time soon, but the chemical commonly known as a household cleaner is still an alternative to lithium in the way it can power fuel cells in vehicles and other equipment.
 - If scientists can figure out a way to produce ammonia without creating the greenhouse gas emissions that result right now, they can ship it anywhere in the world to be converted into hydrogen to power those fuel cells.
 - **Lithium-Sulphur Batteries:** Researchers in Australia say they have developed the world's most powerful rechargeable battery using lithium-sulphur, said to perform four times better than the strongest batteries currently available.
 - **Vertically Aligned Carbon Nanotube Electrode:** These are good candidates for lithium-ion battery electrodes which require high rate capability and capacity.

Open Source Software Platform

Why in News

Recently, the Github, an **open-source software** repository service was used to create and share an offensively named app that **sexually harassed a women in India.**

- The app used pictures of the women stolen from their social media handles and invited “users” to bid for them.
- GitHub has blocked the user, and the Indian **Computer Emergency Response System (Cert-In)**, has been asked to form “a high-level committee.

GitHub:

- GitHub is the **world's largest open-source developer community platform** where users upload their projects and code for others to view, edit, and tweak.
- The platform uses the **software Git**, which was created in 2005 by **Linus Torvalds**, the developer of the **open-source operating system Linux**, to track changes in a set of files and for coordination in software.

Key Points

- **Meaning of Open-Source:** The term open source refers to something people can modify and share because its design is publicly accessible.
 - **Underlying Principles:** Open source projects, products, or initiatives embrace and celebrate principles of
 - Open exchange,
 - Collaborative participation,
 - Rapid prototyping,
 - Transparency,
 - Meritocracy, and
 - Community-oriented development.
- **Open Source Software:** Open source software (OSS) is **software that is distributed with its source code**, making it available for use, modification, and distribution with its original rights.
 - **Source code** is the part of software that most computer users don't ever see.
 - It's the code computer programmers **manipulate to control** how a program or application behaves.

- OSS typically **includes a licence** that allows programmers to modify the software to best fit their needs and control how the software can be distributed.
- The idea of making source code freely available originated in 1983 from an ideological movement informally founded by **Richard Stallman**, a programmer at MIT.
- Examples of **Linux, Mozilla Firefox, VLC media player, SugarCRM, etc.**
- **Closed Source or Proprietary Software:** Closed source software is software that holds the source code safe and encrypted.
 - Meaning, the user can't copy, modify, or delete parts of the code without some type of consequence.

Note:

- While the operating system of **Apple's iPhones (iOS) is closed source**, meaning it cannot be legally modified or reverse engineered, **Google's Android operating system is open-source**, and therefore it is possible by smartphone manufacturers such as Samsung, Xiaomi, OnePlus, etc to modify it for their hardware.

- **Government Policy on OSS:**
 - The Government of India had issued a **Policy on Adoption of Open Source Software** in 2015.
 - **Free and Open Source Software for Education (FOSSEE) Project:** It is a project promoting the use of open source software in educational institutions.
 - It does that through instructional material, such as spoken tutorials, documentation, such as textbook companions, awareness programmes, such as conferences, training workshops, and internships.
 - The government has also made the android version of the **Aarogya Setu app** open source.

Promoting OSS is a part of **GovTech 3.0**.

- GovTech 3.0 is focussed on **Open Digital Ecosystems (ODEs)**, the underlying philosophy suggests that the government should focus on creating the "digital commons".

Use of Drones Technology

Why in News

Recently, the Ministry of Civil Aviation has suggested to the other Ministries to promote effective use of Drone technology.

- This suggestion was made as part of the initiatives to make India a global hub for drones under the **Atmanirbhar Bharat Abhiyan** and in the backdrop of the Union Government rolling out the liberalised **Drone Rules 2021**.
- Drones offer tremendous benefits to almost every sector of the economy, national defence, agriculture, law enforcement, and mapping, among others.

Key Points

- **About Drones:**
 - It is a layman terminology for **Unmanned Aircraft (UA)**.
 - Originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring.
 - A drone's autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and **LIDAR detectors** to calculate its movement.
- **Application of Drone Technology:**
 - **Defence:** Drone system can be used as a symmetric weapon against terrorist attacks.
 - Drones can be integrated into the national airspace system.
 - Deployment of drones for combat, communication in remote areas, counter-drone solutions can be done.
 - **Healthcare Delivery Purposes:** Recently, the Ministry of Civil Aviation has approved a project with the **Telangana government for using drone technology to deliver vaccines** in remote areas.

- **Agriculture:** In the agriculture sector, micronutrients can be spread with the help of drones.
 - It can also be used for performing surveys for identifying the challenges faced by the farmers.
- **Monitoring:** The drone technology in the **SVAMITVA scheme** launched by the Government of India, within less than a year, has helped about half a million village residents to get their property cards by mapping out the abadi areas.
 - Drones can be used for real-time surveillance of assets and transmission lines, theft prevention, visual inspection/maintenance, construction planning and management, etc
 - They can be used for anti-poaching actions, monitoring of forests and wildlife, pollution assessment, and evidence gathering.
- **Law Enforcement:** Drones are also significant for the law enforcement agencies, the fire and emergency services wherever human intervention is not safe and the healthcare services.
- **Associated Issues:**
 - **Increased Risk of Armed Attacks:** Operation of drones without any adequate legal backing can pose several security threats.
 - Incidents of arms being dropped by drones are also there such as the recent Jammu drone attacks.
 - They can be put to destructive use, to slam into critical targets, destroy infrastructure and so on.
 - **Paramilitary Not Exempted from the Rules:** The drone rules 2021 are not applicable to the army, navy or the airforce.
 - However, it still includes paramilitary forces. BSF is suffering a lot of issues due to the drones coming across the lines.
 - **Cheaper Cost Enables a Larger Population to Procure Drones:** Drones are relatively cheaper in comparison to conventional weapons and yet can achieve far more destructive results which is the primary reason for increased number of drone attacks.
 - **Delivery of Mass Destruction Weapons:** What makes combat drones most dangerous is the threat of them being used to deliver weapons of mass destruction.
 - Procurement of combat drones by non-state actors poses serious threats.

New ISRO Chairman S. Somanath

Why in News

Recently, S. Somanath, an eminent rocket scientist has been appointed as the **Chairman of the Indian Space Research Organisation (ISRO)** and the Space Secretary.

Major Contribution of Dr. Somanath

- He has played a major role in the development of the Polar Satellite Launch Vehicle (PSLV) and the **Geosynchronous Satellite Launch Vehicle Mk-III (GSLV Mk-III)**.
- He joined the GSLV Mk-III project in 2003, and served as Project Director from 2010 to 2014.
 - He is an expert in the area of system engineering of launch vehicles.
- Later on, he contributed to the development of the indigenous **cryogenic stages for the GSLV**.

Key Points

- **ISRO:**
 - It is the pioneer space exploration agency of India, headquartered at Bengaluru.
 - ISRO was formed in 1969 with a vision to develop and harness space technology in national development, while pursuing planetary exploration and space science research.
 - ISRO replaced its predecessor, **INCOSPAR (Indian National Committee for Space Research)**, established in 1962 by India's first Prime Minister Pt. Jawaharlal Nehru and scientist Vikram Sarabhai, considered amongst the founding fathers of the Indian space program.
- **Achievements of ISRO:**
 - The **first Indian satellite, Aryabhata**, was built by the ISRO and launched with the help of the Soviet Union on 19th April 1975.
 - The year 1980 marked the **launch of Rohini**, which was the first satellite to be successfully placed in orbit by **SLV-3, an Indian made launch vehicle**.
 - Subsequently with more efforts, two other rockets were developed by ISRO: **the PSLV (Polar**

Satellite Launch Vehicle) for placing satellites into polar orbits and the **GSLV (Geosynchronous Satellite Launch Vehicle)** for placing satellites into geostationary orbits.

- Both the rockets have successfully launched several earth observation and communication satellites for India as well as other countries.
- Indigenous satellite navigation systems like **IRNSS** and **GAGAN** have also been deployed.
 - **Indian Regional Navigation Satellite System** is designed to provide accurate position information service to assist in the navigation of ships in the Indian Ocean waters.
 - **GAGAN** is India's **first satellite-based global positioning system** that relies on ISRO's GSAT satellites.
- In January 2014, ISRO used an **indigenously built cryogenic engine** for a GSLV-D5 launch of the GSAT-14 satellite making it one of the only six countries in the world to develop a cryogenic technology.
- Some remarkable space probes of ISRO include **Chandrayaan-1** lunar orbiter, **Mars Orbiter Mission (Mangalyaan-1)** and **ASTROSAT space observatory**.
 - The success of the **Mars Orbiter Mission** made India **only the fourth country in the world** to reach Martian orbit.
- India launched **Chandrayaan-2**, its second lunar exploration mission after Chandrayaan-1 on 22nd July 2019.
- **Major ISRO achievements of 2021:**
 - **Amazonia-1:**
 - The 53rd flight of PSLV-C51 marked the first dedicated mission for **New Space India Ltd (NSIL)**, the commercial arm of ISRO.
 - Amazonia-1, the optical **earth observation satellite** of National Institute for Space Research (INPE), would provide remote sensing data to users for monitoring deforestation in the Amazon region and analysis of diversified agriculture across the Brazilian territory.
 - **UNITYsat (three satellites):**
 - They have been deployed to provide **Radio relay services**.
 - **SDSAT:**

- Satish Dhawan Satellite (SDSAT) is a **nano satellite** intended to study the radiation levels/ space weather and demonstrate long range communication technologies.

➤ **Upcoming Missions:**

- **Gaganyaan Mission:** India's maiden space mission, Gaganyaan, will be launched in 2023.
- **Chandrayaan-3 Mission:** Chandrayaan-3 is likely to be launched during the third quarter of 2022.
- **Three Earth Observation Satellites (EOSs):**
 - **EOS-4 (Risat-1A) and EOS-6 (Oceansat-3)** — will be launched using Isro's workhorse PSLV, the third one, **EOS-2 (Microsat)**, will be launched in the first developmental flight of the **Small Satellite Launch Vehicle (SSLV)**.
 - These satellites will be launched in the **first quarter of 2022**.
- **Other:**
 - **Shukrayaan Mission:** The ISRO is also planning a mission to Venus, tentatively called Shukrayaan.
 - **Own Space Station:** India is planning to **launch its own space station by 2030**, joining the league of US, Russia, and China to an elite space club.

➤ **Challenges for ISRO:**

- **Mere contribution in Global Space Economy:**
 - India accounts for **only 2% of the global space economy**.
 - The two key reasons for the same are **lack of space specific laws** and **effective monopoly enjoyed by ISRO** over all space-related activities.
- **International Treaties:**
 - India's current space activities are currently governed by a few international treaties along with two national policies which are **Satellite Communication Policy (SATCOM)** and **Remote Sensing Data Policy (RSDP)**.
 - SATCOM policy was introduced in 1997 and is aimed at developing the space and satellite communications industry within India.
 - ◆ In 2000, norms for the implementation of the 1997 policy were introduced.
 - The RSDP was introduced in 2001 and revised in 2011.

- ◆ It lays down clear guidelines for the distribution of satellite remote sensing data within India and states that the GOI is the exclusive owner of all data received from Indian Remote Sensing Satellites (IRS) to which private entities can only acquire a license through the nodal agency.
- **Not having Domestic Space Law:**
 - Up until recently, the **need for a domestic space law was not felt** as space was seen more of an international issue rather than a domestic one.
 - Furthermore, the **private sector has only recently shown willingness** to invest and play a bigger role in India's space sector after realising the potential of commercial space activity.
- **Steps taken for Space Revolution:**
 - **National Space Transportation Policy (NSTP)**
 - **IN-SPACE**
 - **NewSpace India Limited (NSIL)**
 - **Indian Space Association (ISpA)**



Environment & Ecology

Highlights

- Solar Waste
- Vehicular Emissions in India
- Meeting Emission Norms: Coal-based Power Plants
- Bioenergy Crops Create Cooling Effect on Cultivated Areas
- India State of Forest Report-2021
- Deforestation in Cerrado: Brazil
- Aquamation

Solar Waste

tellurium, 15% of the world's silver, a substantial

Why in News

According to a report by the **National Solar Energy Federation of India (NSEFI)**, India could generate over 34,600 tonnes of cumulative **solar waste** in India by 2030.

- India does not have a solar waste management policy, but it does have ambitious **solar power installation targets**.
- NSEFI is an umbrella organisation of **all solar energy stakeholders of India**. Which works in the area of **policy advocacy and is a National Platform for addressing all issues connected with solar energy growth** in India.

Key Points

- **About:**
 - Solar wastes are the **electronic waste generated by discarded solar panels**. They are sold as scrap in the country.
 - It can increase **by at least four-five-fold by the next decade**. India should focus its attention on drafting comprehensive rules to deal with solar waste.
- **Report:**
 - It is likely that India will be faced **with solar waste problems by the end of this decade**, and solar waste will end up being the most prevalent form of waste in landfills soon.
 - Solar panels have a **life of 20-25 years, so the problem of waste seems distant**.
 - While **photovoltaics** generate only about **3% of global electricity, they consume 40% of the world's**

chunk of **semiconductor**-grade quartz and lesser but still significant amounts of indium, zinc, tin and gallium.

- The market value of raw materials recovered from solar panels **could reach USD 450 million by 2030.**
- The value of **recoverable materials might surpass USD 15 billion by 2050**, which would be enough to power 630 GW with two billion solar panels.
 - Globally, it is expected that **End-of-Life (EoL) of solar panels will drive the solar panel recycling business** in the next 10-20 years.

➤ **Other Countries Handling Solar Waste:**

- **European Union:**
 - The **Waste Electrical and Electronic Equipment (WEEE) Directive** of the **EU (European Union)** imposes responsibility for the **disposal of waste on the manufacturers or distributors** who introduce or install such equipment for the first time.
 - PV (Photovoltaic) **manufacturers are solely responsible for the collection, handling and treatment of modules** at the end of their lifecycle, according to the WEEE Directive.
- **UK:**
 - The UK also has an **industry-managed “take-back and recycling scheme”**, where all PV producers will **need to register and submit data related to products** used for the residential solar market (Business-to-Consumer) and non-residential market.
- **USA:**
 - While there are no federal statutes or regulations in the US that talk about recycling, **there are some states who have proactively defined policies to address end-of-life PV module management.**

- Washington and California have come up with **Extended Producer Responsibility (EPR) regulations**. Washington now requires **PV module manufacturers to finance the take-back and reuse or recycling of PV modules** sold within or into the state at no cost to the end-user.
- **Australia:**
 - The federal government In Australia has acknowledged the concern and announced a USD 2 million grant as **part of the National Product Stewardship Investment Fund** to develop and implement an industry-led product stewardship scheme for PV systems.
- **Japan and South Korea:**
 - Countries such as Japan and South Korea have already indicated their resolve to come up with **dedicated legislation to address the PV waste problem**.
- **Recommendations:**
 - **Strong e-waste or Renewable Energy Waste Laws:** EPR for the **manufacturer and developers to take responsibility for end-of-life the solar panel**.
 - PV modules were the first to be included in the EU's WEEE regulations. It includes options for financing waste management.
 - **Infrastructure:** To bring down the cost of recycling infrastructure investment is required, **coordination between the energy and waste sector to efficiently handle the renewable energy waste** and build more recycling plants to avoid solar panels ending up in landfills.
 - **Environmental Disposal and Recycling:** **Environmental disposal and recycling** of solar waste could be part of the power purchase agreement SECI/DISCOMS/government signs with project developers.
 - **Ban on Landfills:** Solar panel waste is harmful to the environment as it contains toxic metals and minerals that may seep in the ground.
 - **Business Incentives:** **New business models**, incentives or issues of green certificates to be provided to encourage the recycling industry to participate more.
 - **Research and Development:** Innovation in design may have an impact on the type of waste they generate; technology advancements will be significant in reducing the impact of renewable

energy waste. New panels, for example, use less silicon and produce less waste during the manufacturing process.

➤ **Related Indian Initiatives:**

- **Draft EPR Notification: Plastic Packaging Waste.**
- **Plastic Waste Management Amendment Rules, 2021.**
- **E-Waste (Management) Rules, 2016.**
- **E-waste (Management) Amendment Rules, 2018.**
- **Central Pollution Control Board.**

Vehicular Emissions in India

Why in News

The **annual car sales in India** are projected to increase from the **current 3.5 million to about 10.5 million** — a three times increase — by 2030, which will **increase exposure to vehicular exhaust emissions**.

- India is the **fifth-largest global car manufacturer** with one of the highest compound annual growth rates (10%) of vehicle registration as of 2019.

Key Points:

➤ **Vehicular Emissions in India:**

- Vehicular emission is a **major cause of air pollution** in urban areas.
- Typically, vehicular emission **contributes 20-30% of Particulate Matter (PM) 2.5** at the breathing level of air quality.
 - PM2.5 refers to particles that have a diameter less than 2.5 micrometres (more than 100 times thinner than a human hair) and remain suspended for longer.
- According to studies, vehicles annually contribute about 290 gigagrams (Gg) of PM2.5.
- At the same time, around **8% of total Greenhouse Gas (GHG) Emissions** in India are from the transport sector, and in Delhi, it exceeds 30%.

➤ **Vehicular Emissions (World):**

- The transport sector accounts for a quarter of total emissions, out of which road transport accounts for three-quarters of transport emissions (and 15% of total global CO₂ emissions).
- Passenger vehicles are the largest chunk of this, releasing about 45% of CO₂.

- If the conditions prevail, annual GHG emissions in 2050 will be 90% higher than those of 2020.
- **Issues in India's Steps towards Reducing Emissions:**
 - In India, **vehicle technology is changing rapidly** with changes in fuel quality, exhaust treatment systems of the Internal Combustion Engines (ICE), electrification of vehicle segments and steps towards hydrogen-powered vehicles.
 - But the current and future batches of ICE vehicles are likely to have a substantial share in on-road fleet till 2040, if not beyond.
 - This not only **requires substantial tightening of the emissions standards** but also **modification of technical parameters** for testing of vehicles to reduce the emissions in the real world.
- **Emissions Testing Methods:**
 - Most countries have formulated regulations for testing vehicles at the manufacturing end and when in use.
 - The vehicle certification procedures consist of testing engine performance and emission compliance on the engine chassis dynamometer in the laboratory.
 - A **drive cycle** (a series of continuous data points of speed and time that approximates driving pattern in terms of acceleration, deceleration and idling) is followed to achieve acceptable test results.
 - This is expected to simulate realistic driving intended for the vehicle type that has a bearing on emissions.
- **Testing Methods Formulated by India:**
 - The **Indian Drive Cycle (IDC)** was the first driving cycle formulated for vehicle testing and certification in India based on extensive road tests.
 - The IDC was a short cycle comprising six driving cycle modes of 108 seconds (reflecting a pattern of acceleration, deceleration and idling).
 - But the **IDC did not cover all the complex driving conditions** that are normally observed on Indian roads.
 - Subsequently, as an improvement over IDC, the **Modified Indian Drive Cycle (MIDC)** was adopted, which is equivalent to the **New European Driving Cycle (NEDC)**.
 - MIDC accounts for wider speed profiles and is a better-suited cycle than the IDC.
- MIDC is also **significantly close to the idling conditions** observed in real-world driving.
- Despite the improvements, MIDC may **still represent vehicular emissions** during on-road conditions adequately because of variations in traffic density, land-use patterns, road infrastructure and poor traffic management.
- It has therefore become necessary to adopt the **Worldwide Harmonized Light Vehicle Test Procedures (WLTP)**, which is a global harmonised standard for determining the levels of pollutants from ICE and hybrid cars.
- **Measure Emissions in Real World:**
 - For the **Real Driving Emissions (RDE) tests**, the European Commission, the United States and China suggest that the **driving cycles and laboratory tests do not reflect the likely emissions** during real driving conditions, which are more complex than laboratory driving cycles.
 - RDE is an independent test to overcome the limitations of WLTP and equivalent laboratory tests. A car is driven on public roads over a wide range of conditions.
 - **The International Centre for Automotive Technology** in India is currently developing RDE procedures that are likely to come into force in 2023.
 - The RDE cycle **must account for conditions prevailing in the country**, such as low and high altitudes, year-round temperatures, additional vehicle payload, up and downhill driving, urban and rural roads and highways.
- Initiatives to Reduce Emissions in India**
 - **Shift from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms:**
 - Bharat stage (BS) emission standards are laid down by the government to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.
 - The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from 1st April 2020.
 - **Roadmap for Ethanol Blending in India by 2025:**
 - The roadmap proposes a **gradual rollout of ethanol-blended fuel** to achieve E10 fuel supply by April 2022 and phased rollout of E20 from April 2023 to April 2025.

Faster Adoption and Manufacturing of Hybrid and Electric vehicle (FAME) Scheme:

- The FAME India Scheme is aimed at incentivising all vehicle segments.
- Two phases of the scheme:
 - Phase I: started in 2015 and was completed on 31st March, 2019
 - Phase II: started from April, 2019, will be completed by 31st March, 2024.
- National Hydrogen Energy Mission:
 - It aims to cut down carbon emissions and increase the use of renewable sources of energy while aligning India's efforts with global best practices in technology, policy and regulation.

Meeting Emission Norms: Coal-based Power Plants

Why in News

According to the analysis by the **Centre for Science and Environment (CSE)**, a Delhi-based non-profit, **61% of the coal-based power plants** located near million-plus population cities, which have to meet their emission standards by December 2022, will miss their deadlines.

Key Points

- **Background:**
 - The Ministry of Environment, Forest and Climate Change (MoEF&CC) **had in 2015 set new emission norms** and fixed a deadline to meet it.
 - **India initially had set a 2017 deadline** for thermal power plants to comply with emissions standards for installing **Flue Gas Desulphurization (FGD)** units that cut emissions of toxic sulphur dioxide.
 - This was later changed to **varying deadlines for different regions, ending in 2022.**
- **Categorisation of Power Plants:**
 - **Category A:**
 - The power plants which have to meet the December 2022 target are those which are located within **10 km radius of the National Capital Region (NCR) or cities having million-plus population.**

- There are 79 coal-based power plants in this category as per a categorisation list of a task force, constituted by the **Central Pollution Control Board (CPCB).**

- **Category B and C:**

- 68 power plants have been put in **Category B (compliance deadline of December 2023)** and 449 in Category C (compliance deadline of December 2024).
- The power plants which are **located within 10 km radius of critically polluted areas** or non-attainment cities fall under category B while the rest others (75% of total) fall in category C.

- **CSE Analysis:**

- **Major Defaulters:**

- Maharashtra, Tamil Nadu, Madhya Pradesh, Chhattisgarh and Andhra Pradesh.
 - These defaulting stations are run largely by the respective state governments.
- At least 17 Indian states have coal-based thermal power stations. A state-wise comparison highlighted the following:
 - Except for Assam (AS), none of the other states among these 17 will 100% comply with the stipulated deadlines. This state has a 750-megawatt power station that makes it an insignificant per cent of total coal capacity.

- **State-run units on the wrong:**

- A majority of the **coal thermal power capacity that is likely to meet the norms** belongs to the **central sector followed by the private sector.**
 - Among the plants belonging to the state sector, some have floated the tender or at various

stages of a feasibility study or simply have not framed any action plan to date.

- **Impact of Penalty Mechanism:**
 - The **penalty imposed on non-compliant units** will be **more feasible to pay** rather than bearing the legalised cost of retrofit of pollution control equipment (FGD) to meet the new norms.
 - The April 2021 notification also introduced a penalty mechanism or environmental compensation for plants that will not meet the respective deadlines, in addition to revising the deadlines.
 - The environmental compensation that will be levied too will **fail to act as deterrence for this expected non-compliance** as it is too meagre as compared to the cost of effective emission control by a coal thermal power plant.

Sulfur Dioxide Pollution

- **Source:**
 - The largest source of SO₂ in the atmosphere is the **burning of fossil fuels** by power plants and other industrial facilities.
 - Smaller sources of SO₂ emissions include: **industrial processes** such as extracting metal from ore; **natural sources** such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.
- **Impact: SO₂ can affect both health and the environment.**
 - **Short-term exposures** to SO₂ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO₂.
 - SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to Particulate Matter (PM) pollution.
 - Small particles may penetrate deeply into the lungs and in sufficient quantities can contribute to health problems.

➤ **India's Case:**

- **India's sulphur dioxide (SO₂) emissions** recorded a significant decline of approximately 6% in 2019 compared to 2018, the steepest drop in four years, according to a report from Greenpeace India and the Centre for Research on Energy and Clean Air (CREA).
 - However, India remained the **largest emitter of SO₂**.
- Air Quality sub-index has been evolved for eight pollutants (PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃, and Pb) for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed.

Bioenergy Crops Create Cooling Effect on Cultivated Areas

Why in News

A new study has found that converting annual crops to perennial bioenergy crops **can induce a cooling effect on the areas** where they are cultivated.

- The researchers simulated the biophysical climate impact of a range of future bioenergy crop cultivation scenarios. Eucalyptus, poplar, willow, miscanthus and switchgrass were the bioenergy crops used in the study.
- The study also demonstrated the importance of the crop type choice, the original land use type upon which bioenergy crops are expanded, the total cultivation area and its spatial distribution patterns.

Bioenergy Crops

- Crops from which Biofuels are produced or manufactured are called Biofuel crops or Bioenergy Crops. **"Energy crops" is a term used to describe biofuel crops.**
 - Wheat, corn, main edible oilseeds/edible oils, sugarcane, and other crops are among them.
- Biofuels have a number of advantages over fossil fuels, including the ability to burn cleaner and emit fewer pollutants and greenhouse gases, such as carbon dioxide, into the sky. They're also environmentally friendly, and energy corporations frequently mix Biofuels with gasoline.

Key Points

➤ **-0.08 ~ +0.05 Global Net Energy Change:**

- Cultivation area under bioenergy crops occupies $3.8\% \pm 0.5\%$ of the global total land area, but they exert strong regional biophysical effects, leading to a global net change in air temperature of $-0.08 \sim +0.05$ degrees Celsius.
- Global air temperature will decrease by $0.03 \sim 0.08$ °C, with strong regional contrasts and inter-annual variability, after 50 years of large-scale bioenergy crop cultivation.

➤ **Can Impact Carbon Capture and Storage:**

- Large-scale bioenergy crop cultivation with carbon capture and storage (BECCS) has been identified as a major negative emission technology (NET) for removing CO₂ from the atmosphere.

➤ **Large Spatial Variations:**

- Large-scale bioenergy crop cultivation **induces a biophysical cooling effect at the global scale**, but the air temperature change **has strong spatial variations and inter-annual variability**.
- Temperature changes in the bioenergy crop scenarios may have very large spatial variations and important climate teleconnections to other areas of the globe.

➤ **Protect Permafrost from Thawing:**

- Strong cooling effects in Eurasia, between 60°N and 80°N, may protect permafrost from thawing or reduce methane emissions from wetlands.

- Permafrost is any ground that remains completely frozen—32°F (0°C) or colder—for at least two years straight.

➤ **Eucalypt is Superior to Switchgrass:**

- Cultivating eucalypt shows generally cooling effects that are more robust than if switchgrass is used as the main bioenergy crop, implying that eucalypt is superior to switchgrass in cooling the lands biophysically.
- Cooling effects are more for eucalypt and the greatest warming effects are seen for switchgrass.
- Replacing forests with switchgrass not only results in biophysical warming effects but could also release more carbon through deforestation than converting other short vegetation to bioenergy crops.

India State of Forest Report-2021

Why in News

Recently, the **Union Ministry of Environment, Forests and Climate Change (MoEFCC)** released the India State of Forest Report-2021.

- In October, 2021 an amendment was proposed by MoEFCC to the **Forest (Conservation) Act, 1980** to bring significant changes to forest governance in India.

Key Points

➤ About:

- It is an assessment of **India's forest and tree cover**, published every two years by the Forest Survey of India.
- The first survey was published in 1987, and ISFR 2021 is the 17th.
- India is **one of the few countries in the world** that brings out such a survey every two years, and this is widely **considered comprehensive and robust**.
- The ISFR is used in **planning and formulation of policies** in forest management as well as forestry and agroforestry sectors.
- Three categories of forests are surveyed – **very dense forests** (canopy density over 70%), **moderately dense forests** (40-70%) and **open forests** (10-40%).
- Scrubs (canopy density less than 10%) are also surveyed but not categorised as forests.

➤ New Features of ISFR 2021:

- It has for the **first time assessed forest cover in tiger reserves, tiger corridors** and the **Gir forest** which houses the **Asiatic lion**.
- The forest cover in tiger corridors has increased by **37.15 sq km (0.32%) between 2011-2021**, but decreased by 22.6 sq km (0.04%) in tiger reserves.
- Forest cover has increased in 20 tiger reserves in these 10 years, and decreased in 32.
- **Buxa (West Bengal), Anamalai (Tamil Nadu) and Indravati reserves (Chhattisgarh)** have shown an **increase in forest cover** while the **highest losses**

have been found in **Kawal (Telangana), Bhadra (Karnataka) and the Sunderbans reserves (West Bengal)**.

- **Pakke Tiger Reserve** in Arunachal Pradesh has the **highest forest cover**, at nearly 97%.

➤ Findings of the Report:

○ Increment in Area:

- The **forest and tree cover in the country continues to increase** with an additional cover of 1,540 square kilometres over the past two years.
- India's forest cover is now **7,13,789 square kilometres, 21.71%** of the country's geographical area, an increase from **21.67% in 2019**.
- Tree cover has increased by 721 sq km.
 - Tree cover is defined as all tree patches of size less than one hectare occurring outside the **recorded forest area**. This covers trees in all formations including scattered trees.

○ Increase/Decrease in Forests:

- The states that have shown the highest increase in forest cover are **Telangana (3.07%), Andhra Pradesh (2.22%) and Odisha (1.04%)**.
- Five states in the Northeast – **Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland** have all shown **loss in forest cover**.

○ States with Highest Forest Area/Cover:

- **Area-wise: Madhya Pradesh has the largest forest cover** in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.
- **In terms of forest cover as percentage of total geographical area, the top five States are** Mizoram, Arunachal Pradesh, Meghalaya, Manipur and Nagaland.
 - The term **'forest area'** denotes the **legal status of the land** as per the government records, whereas the term **'forest cover'** indicates **presence of trees over any land**.

○ Mangroves:

- **Mangroves** have shown an increase of 17 sq km. India's total mangrove cover is now 4,992 sq km.

○ Forest Prone to Fires:

- 35.46% of the forest cover is prone to **forest fires**. Out of this, 2.81% is extremely prone, 7.85% is very highly prone and 11.51% is highly prone.

- By 2030, **45-64% of forests** in India will experience the effects of **climate change** and rising temperatures.
- Forests in all states (except Assam, Meghalaya, Tripura and Nagaland) will be highly vulnerable climate hot spots. Ladakh (forest cover 0.1-0.2%) is likely to be the most affected.
- **Total Carbon Stock:**
 - The total **carbon stock** in the country's forests is estimated at 7,204 million tonnes, an increase of 79.4 million tonnes since 2019.
 - Forest carbon stock is the **amount of carbon that has been sequestered from the atmosphere** and is now stored within the forest ecosystem, mainly within living biomass and soil, and to a lesser extent also in dead wood and litter.
- **Bamboo Forests:**
 - Bamboo forests have grown from 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.
- **Concerns:**
 - **Decline in Natural Forests:**
 - There is a **1,582 sq km decline in moderately dense forests**, or "natural forests".
 - The decline, in conjunction with an increase of 2,621 sq km in open forest areas – shows a degradation of forests in the country.
 - Also, scrub area has increased by 5,320 sq km – indicating the complete degradation of forests in these areas.
 - Very dense forests have increased by 501 sq km.
 - **Decline in Northeast Forest Cover:**
 - The forest cover in the region has shown an overall decline of 1,020 sq km in forest cover.
 - The Northeast states account for **7.98% of total geographical area but 23.75% of total forest cover**.
 - The decline in the Northeastern states has been attributed to a spate of natural calamities, particularly **landslides and heavy rains**, in the region as well as to anthropogenic activities such as **shifting agriculture, pressure of developmental activities and felling of trees**.

Governments Initiatives

- **National Mission for a Green India:**
 - It is one of the eight Missions under the **National Action Plan on Climate Change (NAPCC)**.
 - It was launched in February, 2014 with the objective to safeguard the biological resources of our nation and associated livelihoods against the peril of adverse climate change and to recognise the vital impact of forestry on ecological sustainability, biodiversity conservation and food-, water- and livelihood-security.
 - **National Afforestation Programme (NAP)**
 - It has been implemented since 2000 for the afforestation of degraded forest lands.
 - It is being implemented by the MoEFCC.
 - **Compensatory Afforestation Fund Management and Planning Authority, (CAMPA Funds):**
 - Launched in 2016, 90% of the fund is to be given to the states while 10% is to be retained by the Centre.
 - The funds can be used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.
 - **National Action Programme to Combat Desertification:**
 - It was prepared in 2001 to address issues of increasing desertification and to take appropriate actions.
 - It is implemented by the Ministry of Environment, Forest and Climate Change.
- Forest Fire Prevention & Management Scheme (FFPM):**
- It is the **only centrally funded program** specifically

Deforestation in Cerrado: Brazil

Why in News

Deforestation in 2021 rose to the highest level since 2015 in Brazil's Cerrado, prompting scientists to raise alarm over the state of the world's most species-rich savanna.

- Earlier, it was also found that the area **deforested in Brazil's Amazon** reached a 15-year high after a 22% jump from the prior year (2020).

- Today, **most deforestation is happening in the tropics**. Areas that were inaccessible in the past are now within reach as new roads are constructed through the dense forests.
 - A 2017 report by scientists at the University of Maryland showed that the tropics lost about 1,58,000 square kilometers of forest in 2017 — an area the size of Bangladesh.

➤ **Effect:**

- Deforestation in tropical regions can also affect the way water vapor is produced over the canopy, which causes **reduced rainfall**.
- Deforestation not only removes vegetation that is important for removing carbon dioxide from the air, but the act of clearing the forests also **produces greenhouse gas emissions**.
- It is also causing **loss of biodiversity and animal life**.

Key Points

➤ **About:**

- The Cerrado is spread across several states of Brazil and is **one of the world's largest savannas, is often called an "upside-down forest"** because of the deep roots its plants sink into the ground to survive seasonal droughts and fires.
- **Cerrado** is a major carbon sink that helps to stave off **climate change**.

➤ **Destruction of Cerrado:**

- Destruction of these trees, grasses and other plants in the Cerrado is a major source of Brazil's **greenhouse gas** emissions, although it is far less densely forested than the more famous Amazon rainforest that it borders.
 - Deforestation and other clearances of native vegetation in the Cerrado rose 8% to 8,531 square kilometers in the 12 months through July 2021.
- Scientists blame the **government for encouraging deforestation** with his pro-development rhetoric and for rolling back environmental enforcement.

Deforestation

➤ **About:**

- Deforestation is the **permanent removal of trees** to make room for something besides forest. This can include clearing the land for **agriculture or grazing, or using the timber for fuel, construction or manufacturing**.

Savanna

➤ **About:**

- Savanna, also spelled savannah, **vegetation type that grows under hot, seasonally dry climatic conditions** and is characterized by an **open tree canopy (i.e., scattered trees) above a continuous tall grass** understory (the vegetation layer between the forest canopy and the ground).
- The largest areas of savanna are found in **Africa, South America, Australia, India, the Myanmar (Burma)–Thailand region in Asia, and Madagascar**.

➤ **Environment of Savannas:**

- In general, savannas grow in **tropical regions 8° to 20° latitudes from the Equator**.
- Conditions are **warm to hot in all seasons**, but significant **rainfall** occurs for only a few months each year—about October to March in the Southern Hemisphere and April to September in the Northern Hemisphere.
- Mean **annual precipitation is generally 80 to 150 cm** although in some central continental locations it may be as low as 50 cm .
- The dry season is typically longer than the wet season, but it varies considerably, from 2 to 11 months. **Mean monthly temperatures are about 10 to 20°C** in the dry season and **20 to 30°C in the wet season**.

➤ **Sub-Divisions of Savannas:**

- Savannas may be subdivided into three categories—**wet, dry, and thornbush**—depending on the length of the dry season. In wet savannas the dry season typically lasts 3 to 5 months, in dry savannas 5 to 7 months, and in thornbush savannas it is even longer.
- An **alternative subdivision** recognizes savanna woodland, with trees and shrubs forming a light canopy; tree savanna, with scattered trees and shrubs; shrub savanna, with scattered shrubs; and grass savanna, from which trees and shrubs are generally absent.
 - In spite of their differences, all savannas **share a number of distinguishing structural and functional characteristics.**
 - Generally, **they are defined as tropical or subtropical vegetation types** that have a **continuous grass cover** occasionally interrupted by trees and shrubs and that are found in areas where bushfires occur and where main growth patterns are closely associated with alternating wet and dry seasons.
 - Savannas can be **considered geographic and environmental transition zones** between the rainforests of equatorial regions and the deserts of the higher northern and southern latitudes.

➤ **Vegetation:**

- Grasses and trees that grow in the savanna have **adapted to life with little water and hot temperatures.**
 - Grasses, for example, grow quickly in the wet season when water is abundant and turn brown in the dry season to conserve water.
 - Some trees store water in their roots and only produce leaves during the wet season.
 - Due to frequent fires, **grasses are short and close to the ground and some plants are fire resistant.** Examples of vegetation in the savanna include wild grasses, shrubs, baobab trees, and acacia trees.
- **Fauna:**
- It is **home to many large land mammals**, including **elephants**, giraffes, zebras, **rhinoceroses** etc. Other animals include baboons, **crocodiles**, antelopes etc.
 - Many of the savanna biome animals are **grazing herbivores that migrate through the region.**

Aquamation

Why in News

Recently, the **Nobel Peace Prize** winner **Anglican archbishop** and **anti-apartheid campaigner Desmond Tutu** died. He was very passionate about **protecting the environment and taking necessary actions.**

- In concurrence of his passion to save the environment, **his body underwent aquamation**, a green alternative to traditional cremation methods.
- The process of aquamation uses energy which is **five times less than fire**. It also reduces by **about 35% the amount of greenhouse gases** that are emitted during cremation.

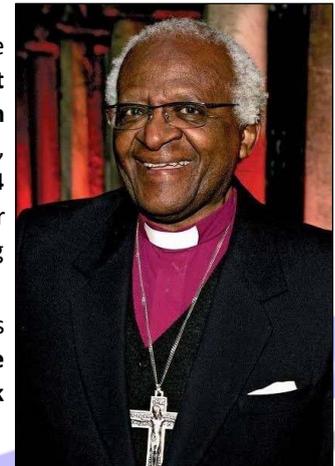
Key Points

- **About Aquamation:**
 - It is a process in which the body of the deceased is **immersed for a few hours in a mixture of water and a strong alkali** in a pressurized metal cylinder and heated to around **150 degree centigrade**.
 - The combination of **gentle water flow, temperature and alkalinity accentuate the breakdown of the organic materials**.
 - The process leaves behind **bone fragments and a neutral liquid called effluent**.
 - The effluent is sterile, and contains salts, sugars, amino acids and peptides.
 - There is **no tissue and no DNA** left after the process completes.
- **Background:** The process was developed and **patented in 1888 by Amos Herbert Hanson**, a farmer who was trying to develop an ingenious way to make fertilizer from animal carcasses.

- The first commercial system was installed at **Albany Medical College in 1993**.
- Thereafter, the process continued to be in use by hospitals and universities with donated body programmes.
- This process is referred to as alkaline hydrolysis or as **Cremation Association of North America (CANA)** (an international non-profit organisation) calls it **flameless cremation**.
- The process is also known as **water cremation, green cremation or chemical cremation**.

Desmond Tutu

- Desmond Tutu is one of **South Africa's most well-known human rights activists**, winning the **1984 Nobel Peace Prize** for his efforts in resolving and **ending apartheid**.
 - He is known as the **voice of the voiceless for Black South Africans**.
- When **Nelson Mandela** was elected as the nation's first Black president—he appointed Tutu chairperson of the **Truth & Reconciliation Commission**.
 - The Truth and Reconciliation Commission was a **court-like restorative justice body** assembled in South Africa in 1996 after the end of apartheid.
- As the chairman, Desmond Tutu has formulated his objective as “a **democratic and just society without racial divisions**”, and has set forward the following points as minimum demands:
 - Equal civil rights for all
 - The abolition of South Africa's passport laws
 - A **Common system** of education
 - The cessation of forced deportation from South Africa to the so-called “**homelands**”.



History

Highlights

- Rani Lakshmbai
- Maya Civilization

Rani Lakshmbai

Why in News

Recently, the Uttar Pradesh Chief Minister has announced that the **Jhansi Railway Station** in Uttar Pradesh will be known as **Veerangana Lakshmbai Railway Station**.

- Rani Lakshmbai **fought bravely against the British** so as to save her empire from annexation. She died fighting on the battlefield on **17th June 1858**.
- When the **Indian National Army** started its first female unit (in 1943), it was named after the **the state**.

Key Points

- **Early Life:**
 - She was born on **19th November 1828** in Varanasi, Uttar Pradesh.
 - Her father's name was **Moropant Tambe**. Lakshmbai's childhood name was '**Manikarnika**' and was affectionately addressed as '**Manu**'.
 - She had a son **Damodar Rao**, who died within four months of his birth. Following the death of the infant, her husband adopted a **cousin's child Anand Rao**, who was renamed **Damodar Rao** a day prior to the death of the Maharaja.
- **Role in India's Struggle for Independence:**
 - Rani Lakshmbai was **one of the brave warriors of India's struggle for Independence**.
 - In 1853, when the Maharaja of Jhansi died, Lord Dalhousie refused to acknowledge the child and **applied the Doctrine of Lapse, and annexed**

valiant queen of Jhansi.

Doctrine of Lapse

- It was an **annexation policy followed widely by Lord Dalhousie** when he was India's Governor-General from 1848 to 1856.
- According to this, **any princely state** that was under the **direct or indirect control of the East India Company** where the ruler did not have a legal male heir would be annexed by the company.
 - Thus, any **adopted son of the Indian ruler would not be proclaimed as heir** to the kingdom.
- By applying the doctrine of lapse, Dalhousie annexed the States of:
 - Satara (1848 A.D.),
 - Jaitpur, and Sambalpur (1849 A.D.),
 - Baghat (1850 A.D.),
 - Udaipur (1852 A.D.),
 - Jhansi (1853 A.D.), and
 - Nagpur (1854 A.D.)

Procedure For Changing the Name

- An **executive order passed with simple majority by the State legislature** is required to rename any village, town, city or a station, while an amendment of the Constitution with majority in Parliament is needed for changing the name of a state.
- It is noteworthy that the **Union Home Ministry gives a green signal** to the proposal to change the name of any railway station or place after getting no objection from the Ministry of Railways, Department



Maya Civilization

Why in News

According to a new study the Maya civilization may have had access to nearly 500 **drought** resistant edible plants.

- The mystery behind Maya civilization’s sudden fall from glory still eludes us. Scientists have long suspected that **drought pushed its people towards starvation**.
- The Maya people faced starvation because of their **dependence on drought-sensitive crops** such as corn, beans and squash.

Key Points

- **About:**
 - The Maya are an **indigenous people of Mexico and Central America** who have continuously inhabited the lands comprising modern-day Yucatan, Quintana Roo, Campeche, Tabasco, and Chiapas in Mexico and southward through Guatemala, Belize, El Salvador and Honduras.
 - The Maya civilization **originated in the Yucatan Peninsula**. Known for its monumental architecture and an advanced understanding of mathematics and astronomy.
 - The rise of the Maya began about 250 CE, and what is known to archaeologists as the Classic Period of Mayan culture **lasted until about 900 CE**. At

its height, Mayan civilization **consisted of more than 40 cities, each with a population between 5,000 and 50,000**.

- But then, suddenly, between 800 and 950 CE, many of the southern cities were abandoned. This period is called the collapse of the Classic Mayacivilisations, puzzling modern-dayscientists.

➤ Special Features:

- As early as 1500 BCE the Maya had settled in villages and had developed an agriculture based on the cultivation of **corn (maize), beans, and squash; by 600 CE cassava (sweet manioc)** was also grown.
- They began to build **ceremonial centres**, and by 200 CE these had developed into cities containing temples, pyramids, palaces, courts for playing ball, and plazas.
- The **ancient Maya quarried immense quantities of building stone** (usually limestone), which they cut by using harder stones such as chert. They practiced mainly slash-and-burn agriculture, but they used advanced techniques of irrigation and terracing. They also **developed a system of hieroglyphic writing and highly sophisticated calendrical and astronomical systems**.
- The Maya made paper from the inner bark of wild fig trees and wrote their hieroglyphs on books made from this paper. Those books are called **codices**.
- The Maya also developed an elaborate and beautiful tradition of **sculpture and relief carving**.
- **Architectural works and stone inscriptions** and reliefs are the chief sources of knowledge about the early Maya.

Other Ancient Civilizations

- **The Incan Civilization-** Ecuador, Peru, and Chile
- **The Aztec Civilization-** Mexico
- **The Roman Civilization-** Rome
- **The Persian Civilization-** Iran
- **The Ancient Greek Civilization-** Greece
- **The Chinese Civilization-** China
- **The Ancient Egyptian Civilization-** Egypt
- **The Indus Valley Civilization-** Northeast Afghanistan to Pakistan and northwest India
- **The Mesopotamian Civilization-** Iraq, Syria, and Turkey



Art and Culture

Highlights

- PRASHAD Projects
- Kathak
- Kala Kumbh-Artist Workshops
- Makar Sankranti
- Jagannath Temple Act, 1954

PRASHAD Projects

Why in News

Recently, the Ministry of Tourism inaugurated various components of the “**Development of Govardhan, Mathura**” project under **PRASHAD Scheme**.

- The government also allocated funds under the **Swadesh Darshan scheme** for strengthening Tourism infrastructure within the state of Uttar Pradesh through various spiritual circuits such as the **Ramayana** and **Buddha circuits**.

Key Points

- **PRASHAD Scheme:**
 - The ‘**National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive**’ (PRASAD) was launched by the **Ministry of Tourism** in the year **2014-15** with the objective of **holistic development of identified pilgrimage destinations**.
 - The name of the scheme was changed from **PRASAD** to “**National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASHAD)**” in October 2017.
 - After the discontinuation of the **HRIDAY** scheme of the Ministry of Housing and Urban Development, the development of Heritage destinations was included in the **PRASAD Scheme, changing it to PRASHAD**.
 - Under the PRASHAD Scheme, **several religious cities/sites in have been identified for development** such as Amaravati and Srisailam (Andhra Pradesh), Kamakhya (Assam), Parasuram Kund (Lohit District,

Arunachal Pradesh), Patna and Gaya (Bihar), etc.

Implementation Agency: The projects identified under this scheme shall be implemented through the identified agencies by the respective State/ Union Territory Government.

- **Funding Mechanism:** The Central Government provides 100% funding for the project components undertaken for public funding.
 - This scheme seeks to leverage the voluntary funding available for **Corporate Social Responsibility (CSR)** and the **Public-Private Partnership (PPP)** for improved sustainability of the projects under this scheme.
- **The objectives of the PRASHAD scheme are as follows:**
 - Harness **pilgrimage tourism** for its multiplier and direct effect on employment generation and economic development.
 - Follow **pro-poortourism concept and community-based development** in the development of the pilgrimage destinations.
 - Leveraging **public expertise and capital.**
 - Enhance **tourist attractiveness sustainably** by developing world-class infrastructure in religious destinations.
 - Create awareness amongst the local communities about the importance of tourism for them in terms of improved living standards, increase in sources of income and overall development of the area.
 - Promote **local culture, arts, cuisine, handicrafts, etc.,** to generate livelihood in the identified places.
- **Swadesh Darshan Scheme:**
 - Swadesh Darshan, a **Central Sector Scheme**, was launched in 2014 -15 for the integrated development of theme-based tourist circuits in the country.

- Under the scheme, **fifteen thematic circuits** have been identified- Buddhist Circuit, Coastal Circuit, Desert Circuit, Eco Circuit, Heritage Circuit, Himalayan Circuit, Krishna Circuit, North East Circuit, Ramayana Circuit, Rural Circuit, Spiritual Circuit, Sufi Circuit, Tirthankar Circuit, Tribal Circuit, Wildlife Circuit.
- Under the scheme, the Ministry of Tourism provides Central Financial Assistance (CFA) to State Governments/Union Territory Administrations for infrastructure development of circuits.
- This scheme is envisioned to synergise with other schemes like **Swachh Bharat Abhiyan, Skill India, Make in India etc.** with the idea of positioning the tourism sector as a major engine for job creation, driving force for economic growth, building synergy with various sectors to enable tourism to realise its potential.

Other Government Schemes Related to Tourism

Adopt A Heritage Project
Development of Iconic Tourist Sites
DekhoApnaDesh

Kathak

Why in News

Recently, the famous **Kathak dancer Pandit Munna Shukla** died.

- His most noted works include the dance-drama Shan-e-Mughal, Inder Sabha, Ameer Khusro, Anga Mukti, Anvesha, Bahar, Tratak, Kraunch Badh, Dhuni, among others.
- His contribution to the world of dance was awarded the **Sangeet Natak Akademi Award (2006), Sahitya Kala Parishad Award (2003)** and the **Saraswathi Samman (2011)**.

Key Points

- **About:**
 - The word Kathak has been derived from the **word Katha which means a story**. It is primarily performed in Northern India.
 - It was primarily a temple or **village performance** wherein the **dancers narrated stories from ancient scriptures**. It is one of the **classical dances of India**.

➤ **Evolution:**

- Kathak began evolving into a distinct mode of dance in the **fifteenth and sixteenth centuries with the spread of the Bhakti movement**.
- The legends of Radha-Krishna were enacted in folk plays called **rasa lila**, which combined folk dance with the basic gestures of the kathak **story-tellers**.
- Under the **Mughal emperors and their nobles**, Kathak was performed in the court, where it acquired its present features and developed into a form of dance with a distinctive style.
- Under the patronage of **Wajid Ali Shah, the last Nawab of Awadh**, it grew into a major art form.

➤ **Dance Style:**

- Usually a solo performance, the dancer often pauses to recite verses followed by their **execution through movement**.
- The focus is more on footwork; the movements are skillfully controlled and performed **straight-legged** by dancers **wearing ankle-bells**.
- The **tatkaar** is the fundamental footwork in kathak.
- Kathak is the only form of classical dance wedded to Hindustani or North Indian music.

- Some prominent dancers include **Birju Maharaj, Sitara Devi.**

➤ **Other Classical Dances in India**

- **Bharatanatyam** from Tamil Nadu
- **Kathakali**, from Kerala.
- **Kuchipudi**, from Andhra Pradesh.
- **Odissi**, from Odisha.
- **Sattriya**, from Assam.
- **Manipuri**, from Manipur.
- **Mohiniyattam**, from Kerala.

Bhakti Movement

- The development of the **Bhakti movement** took place in **Tamil Nadu between the seventh and ninth centuries.**
- It was reflected in the **emotional poems of the Nayanars** (devotees of Shiva) and **Alvars** (devotees of Vishnu).
 - These saints looked upon religion not as a cold formal worship but as a loving bond based upon love between the worshipped and worshipper.
- They wrote in local languages, **Tamil and Telugu** and were therefore able to reach out to many people.
- In course of time, the **ideas of the South moved up to the North** but it was a very slow process.
- A more effective method for spreading the Bhakti ideology was the use of **local languages**. The Bhakti saints composed their verses in local languages.
- They also translated Sanskrit works to make them understandable to a wider audience. Examples include **Jnanadeva writing in Marathi, Kabir, Surdas and Tulsidas in Hindi, Shankaradeva popularising Assamese, Chaitanya and Chandidas spreading their message in Bengali, Mirabai in Hindi and Rajasthani.**

Kala Kumbh-Artist Workshops

Why in News

As part of grand celebrations of the Amrit Mahotsav, the **Ministry of Culture in collaboration with the Ministry of Defence** organized **Kala Kumbh** - artist workshops for painting scrolls.

- The Director General, **NGMA (National Gallery of Modern Art)** along with professors of eminent

universities acted as mentors for the scroll painting workshops.

Key Points

➤ **About:**

- The **major theme** of these artworks is on the **unsung heroes of the struggle for India's freedom.**
- Inspiration has also been drawn from the illustrations in the Constitution of India which have been **meticulously done by Nandalal Bose** – one of the leading masters of modern Indian art from the Bengal School along with a team of other eminent artists and calligraphers.

➤ **National Gallery of Modern Art:**

○ **About:**

- It is a **national premier Institute that was established in 1954** by then vice-president Dr. S Radhakrishnan in the presence of Prime Minister Jawaharlal Nehru.
- NGMA is a **repository of the cultural ethos of the country and showcases the changing art forms through the passage of the last hundred and fifty years** starting from about 1857 in the field of Visual and Plastic arts.

○ **Headquarters:** New Delhi.

○ **Nodal Ministry:** It is run and administered under the **Ministry of Culture.**

Nandalal Bose (1882-1966)

- Born in **Bihar's Munger district on 3rd December, 1882, Nandalal Bose** was one of the **pioneers of modern Indian art and a key figure of Contextual Modernism.**
- Bose was groomed by **Abanindranath Tagore**, the nephew of **Rabindranath Tagore** as well as the principal artist and creator of the **Indian Society of Oriental Art**, for five years till 1910.
- Association with the **Tagore family** and the **murals of Ajanta** awakened **his idealism for a nationalistic consciousness, commitment toward classical and folk art**, along

- His classic works include **paintings of scenes from Indian mythologies, women, and village life.**
 - In his own work, **Bose experimented with the flat treatment of Mughal and Rajasthani traditions** and played with the Sino-Japanese style and technique in his works.
 - Bose became principal of the Kala Bhavana (College of Arts) at **Rabindranath Tagore’s International University Santiniketan in 1922.**
 - The Congress entrusted Bose with the **task of illustrating the pages of the Indian Constitution, when it was being drafted.** Along with his disciple Rammanohar, Bose took up the **task of beautifying and decorating the original manuscript of the Constitution.**
 - He died on 16th April, 1966, in Calcutta.
 - Today, many critics consider his paintings **among India’s most important modern paintings.**
 - In 1976, the Archaeological Survey of India declared his works **among the “nine artists” whose work, “not being antiquities”, were to be henceforth considered “to be art treasures, having regard to their artistic and aesthetic value”.**
- Lohri by north Indian Hindus and Sikhs,
 - Sukarat in central India,
 - Bhogali Bihu by Assamese Hindus, and
 - Pongal by Tamil and other South Indian Hindus.
- **Bihu:**
 - It is celebrated when the annual harvest **takes place in Assam.** People celebrate Rongali/Magh Bihu to mark the beginning of the Assamese new year.
 - It is believed that the festival started from the time when people of the valley started tilling the land. Bihu is believed to be as old as river Brahmaputra.
 - **Pongal:**
 - The word Pongal means **‘overflow’ or ‘boiling over’.**
 - Also known as **Thai Pongal**, the four-day occasion is observed in the month of Thai, when crops such as **rice are harvested** and people show their gratitude to the almighty and the generosity of the land.
 - Tamilians celebrate the occasion by making **traditional designs known as kolams** in their homes with rice powder.

Makar Sankranti

Why in News

Recently, the PM has greeted people across the nation on the occasion of **harvest festivals** Makar Sankranti, Uttarayan, Bhogi, Magh Bihu and Pongal.

- The festivals celebrate the hard work and enterprise of millions of farmers across the country.

Key Points

- **Makar Sankranti:**
 - Makar Sankranti denotes the entry of the sun into the zodiac sign of Makara (Capricorn) as it travels on its celestial path.
 - The day marks the onset of summer and the six months auspicious period for Hindus known as **Uttarayan – the northward movement of the sun.**
 - As a part of the **official celebration of ‘Uttarayan’, the Gujarat government** has been hosting the **International Kite Festival since 1989.**
 - The festivities associated with the day is known by different names in different parts of the country:

Jagannath Temple Act, 1954

Why in News

Recently, in a historic decision, the **Odisha state cabinet has approved amendments to the Sri Jagannath Temple Act of 1954.**

Key Points

➤ **About:**

- In the year 1806, the then British government had issued regulations for management of the Jagannath temple which was referred to as the **Juggernaut temple** by the colonial rulers.
 - Under these regulations, pilgrims who visited the **temple were expected to pay taxes.**
 - The British government was entrusted with appointing senior priests at the temple.
- The powers of management of the temple were passed on to the **King of Khordha** after three years while the colonial government continued to retain some control.
- After **India gained Independence**, the Jagannath Temple Act was introduced in the year 1952, which came into effect in 1954.
 - The Act contains **provision on land rights of the temple**, duties of the sevayat (priests), administrative powers of the Shri Jagannath Temple Managing Committee, rights and privileges of the Raja of Puri and other persons connected with the management and administration of the temple.

➤ **Recent Amendments:**

- The power will now be **delegated to temple administration and concerned officials** for sale and lease of land in the name of Jagannath temple.
- Unlike earlier, **no approval will be required from the state government** for the process.
 - The **Section 16 (2) of the act states** that no immovable property taken possession of by the temple committee shall be leased out, mortgaged, sold or otherwise alienated except with the previous sanction of the State Government.

Jagannath Temple

- The temple is believed to have been **constructed in the 12th century by King Anatavarman Chodaganga Deva of the Eastern Ganga Dynasty.**
- Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the **power of 'Yama'**, the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- This temple was called the "**White Pagoda**" and is a part of Char Dham **pilgrimages** (Badrinath, Dwaraka, Puri, Rameswaram).
- There are **four gates** to the temple- Eastern 'Singhdwara' which is the main gate with two crouching lions, Southern 'Ashwadwara', Western 'Vyaghra Dwara' and Northern 'Hastidwara'. There is a carving of each form at each gate.
- In front of the entrance stands the Aruna stambha or sun pillar, which was originally at the Sun Temple in Konark.

Other Popular Monuments of Odisha

Konark Sun Temple (UNESCO World Heritage Site)
Lingaraja Temple
Tara Tarini Temple
Udaygiri and Khandagiri Caves



Security

AFSPA Extended in Nagaland

Why in News

The Konyak Civil Society Organizations, the guardian umbrella of organizations of the Konyaks, has slammed the extension of the **Armed Forces (Special Powers) Act of 1958 (AFSPA)**.

- The Armed Forces (Special Powers) Act of 1958 has been extended in Nagaland for six months from 30th December 2021.

Konyak

➤ **About:**

- The Konyak are the **largest tribe**, followed by Ao, Tangkhul, Sema, and Angami **in Nagaland**.
- Other Naga tribes include Lotha, Sangtam, Phom, Chang, Khiemnungam, Yimchungre, Zeliang, Chakhesang (Chokri), and Rengma.
- The term 'Konyak' is believed to have been **derived from the words 'Whao' meaning 'head' and 'Nyak' meaning 'black'** translating to 'men with black hair'.
- They can be grouped into **two groups, namely 'Thendu', which means the 'Tattooed Face' and 'Thenthos', meaning the 'White face'**.

➤ **Habitat:**

- Reside mostly in the Mon district also known as **'The Land of The Anghs'**, they are also found in some districts of Arunachal Pradesh, Assam and Myanmar
- In **Arunachal Pradesh, they are known as the Wanchos** ('Wancho' is a synonymous term for 'Konyak').

Ethnically, culturally, and linguistically the Noctes and Tangsa of the same neighbouring state of Arunachal Pradesh, are also closely related to the Konyaks.

➤ **Festivals Celebrated:**

- The three most significant festivals were **Aolingmonyu, Aonyimo and Laoun-ongmo.**
 - **Aolingmonyu is celebrated in the first week of April** after sowing of seeds, and this marks the beginning of a new year. Its religious significance is to appease God for a prosperous harvest.
 - The **Aonyimo is celebrated in July or August** after the harvest of the first crops such as maize and vegetables.
 - The **Laoun-ongmo is a thanks-giving festival** and is celebrated after all agricultural activities are completed.

Key Points

➤ **Armed Forces (Special Powers) Act, 1958:**

- **Background:**
 - A reincarnation of the British-era legislation that was enacted to quell the protests during the **Quit India movement**, the AFSPA was issued by way of four ordinances in 1947.
 - The ordinances were **replaced by an Act in 1948** and the present law effective in the Northeast was introduced in Parliament in 1958 by the then Home Minister, G.B. Pant.
 - It was known initially as the **Armed Forces (Assam and Manipur) Special Powers Act, 1958.**
 - After the States of Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland came into being, the Act was adapted to apply to these States as well.

○ **About:**

- The ASFPA gives **unfettered powers to the armed forces and the Central armed police forces** deployed in “disturbed areas” to kill anyone acting in contravention of law and arrest and search any premises without a warrant and with protection from prosecution and legal suits.
- The law first came into **effect in 1958 to deal with the uprising in the Naga Hills**, followed by the insurgency in Assam.

○ **Disturbed Areas:**

- The Act was **amended in 1972** and the **powers to declare an area as “disturbed”** were conferred concurrently upon the Central government along with the States.
- Currently, the **Union Home Ministry issues periodic “disturbed area”** notification to extend AFSPA only for Nagaland and Arunachal Pradesh.
- The notification for **Manipur and Assam is issued by the State governments.**
- Tripura revoked the Act in 2015 and Meghalaya was under AFSPA for 27 years, until it was revoked by the MHA from 1st April 2018.
- The Act was implemented in a 20-km area along the border with Assam.
- Jammu and Kashmir has a separate **J&K Armed Forces (Special Powers) Act, 1990.**

Controversy Around the Act:

○ **Human Rights Violations:**

- The law **empowers security personnel, down to non-commissioned officers**, to use force and shoot “even to the causing of death” if they are convinced that it is necessary to do so for the “maintenance of public order”.
- It also **grants soldiers executive powers** to enter premises, search, and arrest without a warrant.
- The exercise of these extraordinary powers by armed forces has **often led to allegations of fake encounters and other human rights violations** by security forces in disturbed areas while questioning the indefinite imposition of AFSPA in certain states, such as Nagaland and J&K.

○ **Recommendations of Jeevan Reddy Committee:**

- In November 2004, the Central government appointed a five-member committee headed by Justice B P Jeevan Reddy to review the provisions of the act in the northeastern states.

● **The committee recommended that:**

- **AFSPA should be repealed** and appropriate provisions should be inserted in the **Unlawful Activities (Prevention) Act, 1967**
- The Unlawful Activities Act should be modified to clearly specify the powers of the armed forces and paramilitary forces and Grievance cells should be set up in each district where the armed forces are deployed.

- **Second ARC Recommendation:** The 5th report of the Second Administrative Reforms Commission (ARC) on public order has also **recommended the repeal of the AFSPA.** However, these recommendations **have not been implemented.**

➤ **Supreme Court Views on the Act:**

- The Supreme Court has **upheld the constitutionality of AFSPA in a 1998 judgment** (*Naga People’s Movement of Human Rights v. Union of India*).
- In this judgment, the Supreme Court held that
 - a suo-motu declaration can be made by the Central government, however, it is desirable that the state government should be consulted by the central government before making the declaration;
 - the declaration has to be for a limited duration and there should be a periodic review of the declaration 6 months have expired;
 - while exercising the powers conferred upon him by AFSPA, the authorized officer should use minimal force necessary for effective action.

Indigenous Aircraft Carrier

Why in News

Recently, the **Indigenous Aircraft Carrier (IAC) 1**, which will be called **INS Vikrant** once it enters service with the Indian Navy, began another set of sea trials.

- INS Vikrant is the **largest and most complex warship to be built in India.**

Key Points

➤ **About Aircraft Carrier:**

- An aircraft carrier is “**a large ship that carries military aircraft** and has a long, flat surface where they take off and land.”

- These **floating air bases** are equipped with a full-length flight deck capable of **carrying, arming, deploying and recovering aircraft**.
- They act as **command and control** of a naval fleet in times of war and peace.
- A **carrier battle group** consists of an aircraft carrier and its escorts, together making the group.
 - During **World War II**, the Imperial Japanese Navy was the first to assemble a large number of carriers into a single task force known as **Kido Butai**.
 - This task force was used during the **Pearl Harbour Attack**.
- **Aircraft Carrier in India:**
 - **INS Vikrant (decommissioned):** Beginning with INS Vikrant which served India from 1961 to 1997.
 - India acquired the **Vikrant from the United Kingdom in 1961**, and the carrier played a stellar role in the **1971 war** with Pakistan that led to the birth of Bangladesh.
 - In 2014, INS Vikrant, was broken down in Mumbai.
 - **INS Viraat (decommissioned):** INS Vikrant was followed by the Centaur-class carrier **HMS (Her Majesty's Ship) Hermes**, which was rechristened in India as **INS Viraat** and served in the Indian Navy from 1987 to 2016.
 - **INS Vikramaditya:**
 - It is the **Indian Navy's largest aircraft carrier** and warship converted from the **Russian Navy's decommissioned Admiral Gorshkov/Baku**.
 - INS Vikramaditya is a modified Kiev-class aircraft carrier that was commissioned into service in November 2013.

- **INS Vikrant:**
 - In order to commemorate the legacy of INS Vikrant (**decommissioned**), the **First IAC will be named as INS Vikrant**.
 - It is built at **Cochin Shipyard Limited**.
 - It is currently **undergoing sea trials and is likely to be commissioned in 2023**.
 - Its construction propelled India into a select group of countries having capabilities to **build state-of-the-art aircraft carriers**.
 - **Operational Modalities:** According to the Indian Navy, the warship will operate **MiG-29K fighter jets, Kamov-31 helicopters, MH-60R multi-role helicopters** and the **indigenously manufactured Advanced Light Helicopters (ALH)**.
- **Significance of Aircraft Carriers:**
 - Currently, most of the world powers are operating or building technologically **advanced aircraft carriers** to safeguard their maritime rights and interests.
 - **Thirteen navies across the world now operate aircraft carriers.** Following are the name of a few:
 - Nimitz Class, **US**
 - Gerald R Ford Class, **US**
 - Queen Elizabeth Class, **UK**
 - Admiral Kuznetsov, **Russia**
 - Liaoning, **China**
 - INS Vikramaditya, **India**
 - Charles De Gaulle, **France**
 - Cavour, **Italy**
 - Juan Carlos I, **Spain**
 - USS America, **US**
 - Aircraft Carrier for India, provides a **deterrent naval capability**, that is not only essential but a **strategic need**.
 - This is because India's area of responsibility ranges from the **east coast of Africa to the Western Pacific**.
- **Future Endeavours:**
 - Since 2015, the Navy has been seeking approval to build a third aircraft carrier for the country, which, if approved, will become **India's second Indigenous Aircraft Carrier (IAC-2)**.
 - This proposed carrier, **to be named INS Vishal**, is intended to be a giant 65,000-tonne vessel, much bigger than IAC-1 and the INS Vikramaditya.

Indian Army Day

Why in News

Army Day is celebrated every year on 15th January in India to commemorate the jawans and the Indian Army.

- This year India is celebrating its 74th Army Day.

Key Points

➤ **Historical Background:**

- On 15th January 1949, **Field Marshal Kodandera M. Cariappa**, who was then a Lieutenant General, took over as the first Indian Commander-in-Chief of the Indian Army from General Sir Francis Butcher, the last British person to hold that post.
- K. M. Cariappa adopted the slogan '**Jai Hind**' which means '**Victory of India**'. He is also one of only two Indian Army officers to hold the Five-star rank

of Field Marshal, the other being Field Marshal Sam Manekshaw.

➤ **Army Day:**

- Army Day is **celebrated every year to honor the soldiers of the country**, who have set the greatest example of selfless service and brotherhood and more than anything the love for the country.
- In the celebration of Army Day, the parade is organised every year at the Cariappa Parade Ground of Delhi Cantonment.

➤ **Indian Army:**

- The Indian army originated from the forces of the **East India Company**, which later became the 'British Indian Army', and eventually, after Independence, the Indian Army.
- The Indian Army was **founded almost 126 years ago by the British** on 1st April, 1895.
- India's army is considered the world's fourth strongest army.



Miscellaneous

Highlights

- Nari Shakti Puraskar 2021
- Animal to Human Transplants (Xenotransplantation)
- African Swine Fever
- Gateway of Hell: Turkmenistan
- Pravasi Bharatiya Divas 2022
- Collective Security Treaty Organisation
- Gharials
- Tracking Animals through e-DNA
- Reintroduction of Cheetah
- Smart Cities and Academia Towards Action & Research
- Maharaja Bir Bikram Airport: Tripura
- IHU Variant of Covid-19
- Core Sectors Industries
- First Multi-Dimensional Adventure Sports Expedition: NIMAS
- One Nation-One Grid-One Frequency: National Grid
- Padhe Bharat Campaign
- Ayush Aahaar
- Sea Dragon 22 Exercise
- Omisure Kit
- Chilika Lake: Odisha
- Veer Baal Diwas
- World Hindi Day
- National Youth Day 2022
- Meteorite (ALH) 84001

Nari Shakti Puraskar 2021

Why in News

Nominations for the **Nari Shakti Puraskar, 2021** are open till 31st January, 2022.

Key points

➤ About:

- Initiated in the year 1999, it is the **highest Civilian Honour for Women in India**.
- The **President of India** confers the Nari Shakti Puraskar on the **International Women's Day (8th March)**, annually.
- The Nari Shakti Puraskar carries a **cash award of Rs.2 Lakh** and a certificate for individuals and institutions.
- The **Ministry of Women and Child Development** announces the national level awards for individuals/groups/ **Non-governmental Organisations (NGOs)**/institutions etc. The awards are given:
 - For encouraging women to participate in decision making roles.
 - Women's skill development in traditional and non-traditional sectors.

Facilitating basic amenities for rural women.

- Promoting women in non-traditional sectors like science and technology, sports, art, culture concretely.
- For the significant work towards safety and security, health and wellness, education, life skills, respect and dignity of women etc.

➤ **Objectives:**

- To showcase the Government's commitment towards women with the aim of strengthening their position in the society.
- It will also **provide an opportunity to Young Indians to understand the contribution of women** in building society and the nation.
 - It will also help in achieving the 2030 **Sustainable Development Goals (SDGs)**.
 - **SDG 5:** Achieve gender equality and empower all women and girls.

➤ **Eligibility:**

- As per the Guidelines, **any individual of at least 25 years of age** and institutions having worked in the **relevant field for at least 5 years** are eligible to apply.



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International Women’s Day

- International Women’s Day (March 8) is a global day **celebrating the social, economic, cultural and political achievements of women**. The day also marks a call to action for accelerating gender parity.
- Women’s Day was first celebrated back in **1911 by Clara Zetkin**, who was a German. The roots of the celebration had been in the labour movement.
- It was only in 1913, however, that the **celebrations were shifted to 8th March**, and it has remained that way ever since.
- International Women’s Day was celebrated for the first time by the United Nations in 1975.
- In December 1977, the General Assembly **adopted a resolution proclaiming a United Nations Day** for Women’s Rights and International Peace to be observed on any day of the year by Member States, in accordance with their historical and national traditions.

- This has **re-sparked a debate over the use of pigs for human transplants**, which many animal rights groups oppose.

Animal to Human Transplants (Xenotransplantation)

Why in News

Recently, in a medical first, doctors transplanted a pig heart into a patient in a last-ditch effort to save his life in the US.

Key Points

- **About:**
 - Xenotransplantation involves the transplantation of nonhuman tissues or organs into human recipients.
 - This is the first successful transplant of a pig’s heart into a human being. However, it’s too soon to know if the operation really will work.
 - This time, a heart from a pig that had **undergone gene-editing** has been used to remove a sugar in its cells that’s responsible for that hyper-fast organ rejection.
 - Genome editing (also called **gene editing**) is a group of technologies that give scientists the ability to change an organism’s **Deoxy-Ribonucleic Acid (DNA)**.
 - Prior attempts at such transplants — or xenotransplantation have failed. One of the **biggest obstacles** to transplantation is **organ rejection**.

Significance:

- This development could bring us one step closer to solving the global organ shortage.
 - In India, patients need 25,000-30,000 liver transplants annually. But only about 1,500 end up receiving them.
- Pigs are increasingly becoming popular candidates for organ transplantation.
 - Pigs offer **advantages over primates for organ procurements**, because they are easier to raise and achieve adult human size in six months.
 - Pig heart valves are routinely transplanted into humans, and some patients with diabetes have received porcine pancreas cells.

African Swine Fever

Why in News

Recently, Thailand has detected **African Swine Fever** in a surface swab sample collected at a slaughterhouse.

Key Points

➤ About:

- It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.
- Other manifestations of the disease include high fever, depression, anorexia, loss of appetite, hemorrhages in the skin, vomiting and diarrhoea among others.
- It was first **detected in Africa in the 1920s**.
 - Historically, outbreaks have been reported in Africa and parts of Europe, South America, and the Caribbean.
 - However, more recently (since 2007), the disease has been reported in multiple countries across Africa, Asia and Europe, in both domestic and wild pigs.
 - In 2021, cases were also detected in India.
- The mortality is **close to 100% and since the fever has no cure, the only way to stop its spread is by culling** the animals.

- ASF is not a threat to human beings since it only spreads from animals to other animals.
- ASF is a disease listed in the **World Organisation for Animal Health (OIE)** Terrestrial Animal Health Code and thus, reported to the OIE.

➤ Classical Swine Fever:

- **CSF**, also known as hog cholera, is an important disease of pigs.
- It is one of the most economically-damaging pandemic viral diseases of pigs in the world.
- It is caused by a virus of the **genus Pestivirus of the family Flaviviridae**, which is closely related to the viruses that cause bovine viral diarrhoea in cattle.
- **Mortality is 100%**.
- Recently, the **ICAR-IVRI** developed a Cell Culture **CSF Vaccine** (live attenuated) using the Lapinized Vaccine Virus from foreign strain.
 - The new vaccine has been found to induce protective immunity from day 14 of the Vaccination till 18 Months.

World Organisation for Animal Health

- OIE is an intergovernmental organisation responsible for improving animal health worldwide.
- It has **182 Member Countries**. India is one of the member countries.
- OIE develops normative documents relating to rules that Member Countries can use to protect themselves from the introduction of diseases and pathogens. One of them is the Terrestrial Animal Health Code.
- OIE standards are recognised by the World Trade Organization as reference international sanitary rules.

Gateway of Hell: Turkmenistan

Why in News

Recently, Turkmenistan has decided to find a way to extinguish a fire in a huge **natural gas** (Mixture of methane, carbon dioxide, nitrogen, hydrogen sulphide and helium) the **Darvaza gas crater** also known as the ‘**Gateway to Hell**’.

- Turkmenistan has been at the **centre of methane leakages**. Out of the 50 most severe methane gas leakages onshore oil and gas operations in 2019, 31 were in Turkmenistan.
- In addition to this, **one of these leakages, “had a climate impact roughly equivalent to the annual emissions of all the cars in Arizona”**.

Severity of Methane Leaks

- Methane is the primary contributor to the **formation of ground-level ozone, a hazardous air pollutant and greenhouse gas**, exposure to which causes 1 million premature deaths every year.
- Methane is also a powerful greenhouse gas. **Over a 20-year period, it is 80 times more potent at warming than carbon dioxide.**

Key Points

- **About:**
 - Located in the Karakum desert, 260 kilometres away from Turkmenistan’s capital, Ashgabat, the **crater has been burning for the last 50 years**.
 - The crater has become a **significant tourist attraction in the country**. In 2018, the country’s president officially renamed it as the “**Shining of Karakum**”.

Origin of Crater:

- The details of the origin are not actually known but it has been said that the crater **was created in 1971 during a Soviet drilling operation**.
 - Soviet geologists were drilling for oil in the Karakum desert when **they hit a pocket of natural gas by mistake, which caused the earth to collapse** and ended up forming three huge sinkholes.
 - A **sinkhole** is a depression in the ground that has no natural external surface drainage. These are regions formed **when underlying limestone bedrock is dissolved** by groundwater.
- Locals have also said that the crater was formed in the 1960s but wasn’t lit on fire until the 1980s.
- It has also been said that since oil and gas were very expensive commodities during Soviet rule, **the formation of the crater has remained a confidential piece of information**.

Reason for Closing:

- It **negatively affects both the environment and the health** of the people living nearby.
- **Loss of valuable natural resources** for which they can get significant profits and use them for improving the wellbeing of people.
- Hinders the **accelerated industrial development of the subsoil riches** of central Karakum.

Pravasi Bharatiya Divas 2022

Why in News

Pravasi Bharatiya Divas (PBD) is celebrated **on 9th January every year** to mark the contribution of the **Overseas Indian community** in the development of India.

Key Points

- **Background:**
 - **9th January was chosen** as the day to celebrate PBD since it was on this day in 1915 that **Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa**, led India's freedom struggle and changed the lives of Indians forever.
 - This day **came into effect in 2003, but in 2015 it was revised** and was decided to **be celebrated every two years**. It was then a theme-based conference that was set up every year during the interim period.
 - **PBD Conventions are held once every two years.**
 - **PBD 2021:** The 16th PBD Convention was held virtually in New Delhi. The theme was "Contributing to **Atmanirbhar Bharat**".
 - On this day, the Government also confers **Pravasi Bharatiya Samman Award**.
 - It is the highest honour conferred on a **Non-Resident Indian, Person of Indian Origin; or an organisation or institution established and run by Non-Resident Indians or Persons of Indian Origin**, who have made significant contribution in better understanding of India abroad, support India's causes and concerns in a tangible way.
- **Significance:**
 - This day plays a significant role as the **overseas Indian community gets a shared platform to get themselves engaged with the government** and the native people of the land.
 - The conventions are **very useful in networking among the overseas Indian community residing in various parts of the world** and enable them to share their experiences in various fields.

Government Initiative related to Overseas Indians

- **Pravasi Kaushal Vikas Yojana (PKVY):** To institutionalize the process of skill development of emigrant Indian workers.
- **Scholarship Programme for Diaspora Children (SPDC):** 100 scholarships per annum are granted to **Persons of Indian Origin (PIO)** and Non Resident Indians (NRI) students for **undergraduate courses**.
- **Know India Program' (KIP):** It familiarizes **Indian-origin youth (18-30 years) with their Indian roots and contemporary India**.
- **E-migrate system:** It is a foreign employers database. It ensures the welfare and check on exploitation met to emigrants.
- **VAJRA (Visiting Advanced Joint Research Faculty) scheme:** It formalizes a rotation program wherein **top NRI scientists, engineers, doctors, managers and professionals serve Indian public sector organizations** for a brief period, lending their expertise.

Collective Security Treaty Organisation

Why in News

Recently, **Kazakhstan's President** called on the **Collective Security Treaty Organisation (CSTO) to help manage ongoing protests** in the country.

Key Points

- **About:**
 - It is an **intergovernmental military alliance (six countries)** that came into effect in 2002.
 - It started storming into Kazakhstan **to curb the protests which threatened the very existence of the regime that has ruled the Central Asian country** since it became an independent republic in 1991.
- **History:**
 - It is an **intergovernmental military alliance that was signed on 15th May 1992**.
 - In 1992, six post-Soviet states belonging to the Commonwealth of Independent States—Russia, Armenia, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan—**signed the Collective Security Treaty**.
 - This is also referred to as the **"Tashkent Pact" or "Tashkent Treaty"**.

- Three other post-Soviet states—**Azerbaijan, Belarus, and Georgia**—signed the next year and the treaty took effect in 1994.
- Five years later, six of the nine—all but Azerbaijan, Georgia, and Uzbekistan—agreed to renew the treaty for five more years, and in **2002 those six agreed to create the CSTO as a military alliance.**
- **Headquarters:**
 - The headquarters is located in the Russian capital of Moscow.
- **Members:**
 - Current members are Armenia, Belarus, Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan.
- **Objectives:**
 - To strengthen **peace, international and regional security** including cybersecurity and stability, the protection on a collective basis of the **independence, territorial integrity and sovereignty** of the member states.

Gharials

Why in News

The **Assam government** has issued a preliminary notification to make **Orang National Park** more than thrice its existing size **for conserving Gharials.**

Key Points

- **About:**
 - Gharials, **sometimes called gavials**, are a type of Asian crocodylian distinguished by their long, thin snouts.
 - Crocodylians are a group of reptiles that includes crocodiles, alligators, caimans, and more.
 - India has **three species of Crocodylians** namely:
 - **Gharial (*Gavialis gangeticus*):** IUCN Red List-Critically Endangered.

Mugger crocodile (*Crocodylus palustris*): IUCN-Vulnerable.

- **Saltwater crocodile (*Crocodylus porosus*):** IUCN- Least Concern.
 - All the three are listed on **Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972.**
 - **Exception:** Saltwater Crocodile populations of Australia, Indonesia and Papua New Guinea are included in Appendix II of CITES.

➤ **Habitat of Gharials:**

- **Natural Habitat:** Fresh waters of the northern part of India.
- **Primary Habitat: Chambal river** (a tributary of Yamuna).
- **Secondary Habitat: Ghagra, Gandak river, Girwa river** (Uttar Pradesh), the Ramganga river (Uttarakhand) and the Sone river (Bihar).
- **Significance:** Population of Gharials are a good indicator of clean river water.
- **Conservation Efforts:**
 - Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, National Chambal Sanctuary (Gharial Eco Park, Madhya Pradesh).
- **Threats:**
 - Increased river pollution, dam construction, massive-scale fishing operations and floods.
 - Illegal sand mining and poaching.

Orang National Park

- The Orang National Park also known as **Rajiv Gandhi Orang National Park** is located on the north bank of the **Brahmaputra River in the Darrang and Sonitpur districts of Assam** and covers an area of 78.81 square kilometers.
- It was established as a **wildlife sanctuary in 1985 but was declared as a National Park in 1999.** It is also the **49th Tiger Reserve** of the country, being notified in 2016.
- It is also known as the **mini Kaziranga National Park** since the two parks have a similar landscape made up of marshes, streams, and grasslands.
- It is the **only stronghold of rhinoceros on the north bank of the Brahmaputra river.**

Other Protected Areas in Assam

- Dibru-Saikhowa National Park,

Manas National Park,
 > Nameri National Park,
 Kaziranga National Park
 Dehing Patkai and Raimona National Parks
 Barnadi Wildlife Sanctuary

- This method will work with the current techniques to monitor endangered species after some fine-tuning.
 - Typically, **biologists observe animals in person or by picking up DNA from animals' footprints or faeces**, which demand extensive fieldwork.
 - Spotting animals can be challenging, especially if they inhabit inaccessible habitats.
- It can **aid in tracking long-distance migratory birds** and other birds' flying patterns. It can also capture **DNA from smaller animals including insects**.
 - Last year (2021), a proof-of-concept study used airborne e-DNA to monitor terrestrial insects.
- As wildlife ecosystems become rapidly and extremely chaotic owing to the alarming effects of **climate change**, terrestrial biomonitoring techniques are expected to adapt and progress rapidly for accurate and timely monitoring.
- > **Related Initiatives:**
 - **Global EDNA Project:** UNESCO launched the project to **study the vulnerability of species** to climate change at **Marine World Heritage Sites** in October 2021.

Tracking Animals through e-DNA

Why in News

According to some studies, **DNA floating in the air (i.e. e-DNA) can boost biodiversity conservation efforts** across the world.

Key Points

- > **About:**
 - Researchers from two teams have independently shown that **environmental DNA (e-DNA) can potentially identify and monitor terrestrial animals**.
 - **Animals shed DNA through their breath, saliva, fur or faeces** into the environment and these samples are called **e-DNA**.
 - Airborne e-DNA sampling is a **biomonitoring method** that is rising in popularity among biologists and conservationists as it provides abundant information.
- > **Significance:**
 - It can **help understand the composition of animal communities** and detect the spread of non-native species.

DNA

- > **DNA, short for deoxyribonucleic acid, is the hereditary material in organisms** that contains the biological instructions for building and maintaining them.
- > The **chemical structure of DNA is the same for all organisms**, but differences exist in the order of the DNA building blocks, known as base pairs.
- > Unique sequences of base pairs, particularly repeating patterns, provide a means to identify species, populations, and even individuals.

e-DNA

- > Environmental DNA (e-DNA) is **nuclear or mitochondrial DNA that is released from an organism into the environment**.
- > **Sources of eDNA** include secreted feces, mucous, and gametes; shed skin and hair; and carcasses. **eDNA can be detected in cellular or extracellular (dissolved DNA) form**.
- > **In aquatic environments, eDNA is diluted** and distributed by currents and other hydrological processes, but it only lasts about 7–21 days, depending on environmental conditions.
- > Exposure to UVB radiation, acidity, heat, and endo- and exonucleases can degrade e-DNA.

Reintroduction of Cheetah

Why in News

Recently, the Union Minister for Environment, Forests and Climate Change has launched the 'Action Plan for Introduction of Cheetah in India' under which 50 of these big cats will be introduced in the next five years.

- The action plan was launched at the 19th meeting of the **National Tiger Conservation Authority (NTCA)**.
 - NTCA is a **statutory body** under the Ministry of Environment, Forests and Climate Change.
- Last year (2021), the **Supreme Court** lifted its seven-year-long stay on a proposal to introduce African Cheetahs from Namibia into the Indian habitat.

Key Points

- **About:**
 - 'Reintroduction' of a species means **releasing it in an area where it is capable of surviving**.
 - Reintroductions of large carnivores have increasingly been recognised as a **strategy to conserve threatened species** and restore ecosystem functions.
 - The cheetah is the only large carnivore that has been eliminated, mainly by over-hunting in India in historical times.
 - The conservation of the cheetah will **revive grasslands and their biomes and habitat**, much like **Project Tiger** has done for forests and all the species that have seen their numbers go up.
- **Reasons for the Extinction:**
 - Hunting, diminishing habitat and non-availability of enough prey - black buck, gazelle and hare - led to the extinction of the cat in India (1952).
 - The advent of **climate change** and growing human populations have only made these problems worse.
- **Reintroduction Action Plan:**
 - With help from the **Wildlife Institute of India and the Wildlife Trust of India**, the ministry will be **translocating around 8-12 cheetahs from South Africa, Namibia and Botswana**.

- These countries have the world's largest populations of the animal.

- The big cats will live at **Kuno Palpur National Park (Madhya Pradesh)** owing to its suitable habitat and adequate prey base.

➤ Other Highlights of the NTCA Meeting:

- **Water Atlas:**
 - A Water Atlas, **mapping all the water bodies in the tiger-bearing areas** of India has also been released.
 - The atlas contains **information about presence of such bodies in several areas**, including the Shivalik Hills and Gangetic plain landscape, Central Indian Landscape and **Eastern Ghats, Western Ghats** landscape, North Eastern Hills and **Brahmaputra** flood plains and **Sundarbans**.
 - The atlas has been put together using remote-sensing data and **Geographic Information System (GIS)** mapping.
 - It will **provide baseline information to forest managers** to shape their future conservation strategies.
- **Conservation Assured | Tiger Standards (CA|TS) Accreditation:**
 - Fourteen tiger reserves have been accredited under CA|TS, and NTCA is working on getting other reserves evaluated for CA|TS accreditation.
 - CA|TS has been agreed upon as an **accreditation tool by the global coalition of Tiger Range Countries (TRCs)** and has been developed by tiger and protected area experts.

Cheetah

- The cheetah is **one of the oldest of the big cat species**, with ancestors that can be traced back more than five million years to the Miocene era.
- The cheetah is also the **world's fastest land mammal that lives in Africa and Asia**.

Sr. No.	Parameter	African Cheetah	Asiatic Cheetah
1.	IUCN status	Vulnerable	Critically Endangered.
2.	CITES status	Appendix-I of the List.	Appendix-I of the List.
3.	Distribution	Around 6,500-7,000 African cheetahs present in the wild.	40-50 found only in Iran.
4.	Physical Characteristics	Bigger in size as compared to Asiatic Cheetah.	Smaller and paler than the African cheetah. Has more fur, a smaller head and a longer neck. Usually have red eyes and they have a more cat-like appearance.
5.	Image		

Smart Cities and Academia Towards Action & Research

Why in News

Recently, the Ministry of Housing and Urban Affairs (MoHUA) has launched “**Smart cities and Academia Towards Action & Research (SAAR)**” program.

- It is a joint initiative of MoHUA, **National Institute of Urban Affairs (NIUA)** and leading Indian academic institutions of the country.

- The documents will capture the learnings from best practices, provide opportunities for engagement on urban development projects to students, and enable real-time information flow between urban practitioners and academia.
 - MoHUA and NIUA will facilitate linkages between the Institutions and Smart Cities for specific landmark projects that are to be documented under the program.
- The first activity envisaged under SAAR is to prepare a compendium of 75 landmark urban projects in India under the Smart City Mission.

National Institute of Urban Affairs

- NIUA is an institute for research, training and information dissemination in urban development and management. It is located in New Delhi, India.
- It was established in 1976 as an autonomous body under the Societies Registration Act.
- The Institute is supported by the Ministry of Housing and Urban Affairs, Government of India, State Governments, urban and regional development authorities and other agencies concerned with urban issues.

Key Points

➤ About:

- Under the program, 15 premier architecture & planning institutes of the country will be working with Smart Cities to document landmark projects undertaken by the Smart Cities Mission.

➤ Smart City Mission:

○ About

- It is a Centrally Sponsored Scheme under MoHUA to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.

○ **Objective:**

- To promote **cities that provide core infrastructure and give a decent quality of life to its citizens**, a clean and sustainable environment and application of Smart Solutions.

○ **Focus:**

- On **sustainable and inclusive development** and to look at compact areas, create a replicable model which will act like a lighthouse to other aspiring cities.

○ **Strategy:**

- Pan-city initiative in which at least one Smart Solution is applied city-wide.
- Develop areas step-by-step with the help of these three models:
 - Retrofitting.
 - Redevelopment.
 - Greenfield.

○ **Performance So Far:**

- Since the start of the Mission in 2015, the **100 Smart Cities have been developing a total of 5,151 projects** with an investment of Rs. 2,05,018 crore.

Initiatives Related to Urban Development
Atal Mission for Urban Rejuvenation and Urban Transformation (AMRUT).
Pradhan Mantri Awas Yojana-Urban (PMAY-U).
Integrated Command and Control Centres (ICCCs)
Climate Smart Cities Assessment Framework 2.0

➤ **India Smart Cities Fellowship Program.**
TULIP-The Urban Learning Internship Program

Maharaja Bir Bikram Airport: Tripura

Why in News

Recently, the Prime Minister inaugurated the New Integrated Terminal Building of **Maharaja Bir Bikram (MBB) Airport** and launched key initiatives like Mukhyamantri Tripura Gram Samridhi Yojana and Project Mission 100 of Vidyajyoti Schools.

Key Points

➤ **About:**

- The inauguration of the new terminal is seen as a first step to **make the airport operational as an international airport** owing to the State's proximity to Bangladesh and accessibility to southeast Asian countries.



- Local **tribal stone sculptures of the Unakoti Hills and local bamboo handicrafts** have been extensively used in the interiors.

- The Maharaja Bir Bikram Airport was **originally built by the US Air Force during the Second World War (1939-45) in collaboration with King Bir Bikram Kishore Manikya Debbarman** of the erstwhile princely State.

- It was **formerly known as the Agartala Airport** and was renamed in 2018.

➤ **Bir Bikram Kishore Debbarman:**

- Maharaja Colonel Bir Bikram Kishore Manikya Debbarman Bahadur (1908–1947) of the Manikya dynasty is widely regarded as **Tripura's pioneer King**.

- He succeeded his father, Birendra Kishore Manikya Debbarman in August 1923. He was succeeded by his own son, Maharaja Kirit Bikram Kishore, **who was king for two years till the state's accession to India in 1949**, but who did not rule, as he was a minor.

- He was the king of Tripura State till 1947.
- He played an **important role in the development** of Tripura. He is known as Father of modern architecture in Tripura: During his rule the entire planning of present-day Tripura was initiated.
- He was a pioneer in land reforms. In 1939, **he reserved land for the local Tripura tribals**. Later, this step was instrumental in the creation of the Tripura autonomous district council.

- He built the **first airport in Tripura (Agartala airport)**.

➤ **Mukhyamantri Tripura Gram Samridhi Yojana:**

- The scheme will promote tap water for every household, housing, Ayushman coverage, insurance cover, KCC (Kisan Credit Card) and roads leading to enhanced confidence in the rural population.

- **Project Mission 100 of Vidyajyoti Schools:**
 - It is aimed to improve the quality of education in the state by converting 100 existing High / Higher secondary schools to Vidyajyoti Schools with state of art facilities and quality education.
 - The project will cover about 1.2 lakh students from Nursery to class XII and will cost around Rs. 500 crores in the next three years.

IHU Variant of Covid-19

Why in News

Amid the spread of the **Omicron Variant** of coronavirus, the discovery of a new strain named '**IHU (Instituts Hospitalo-Universitaires)**' that emerged in France raises fears across the world.

Key Points

- **Discovery:**
 - Its discovery was announced by researchers from Méditerranée Infection in Marseille, part of **France's Instituts hospitalo-universitaires (IHU, or University Hospital Institutes) - hence the name.**
 - The first known case of the IHU variant was detected in mid-November 2021 in a man from France who had returned from Cameroon in Africa (the continent where Omicron was also discovered).
- **About:**
 - The variant is a **sub-lineage of the B.1.640**. It has been classified as **B.1.640.2**.
 - The variant has **46 mutations and 37 deletions in its genetic code**, more than Omicron. Many of these **affect the spike protein**.
- **Spreading Rate:**
 - Till now, only a dozen cases have been reported in France. No other country has detected any new cases of the new variant. It is certainly not as alarming as the spread of Omicron.
 - While the large number of significant mutations in this variant has attracted the interest of researchers, and raised concerns among the public, **the B.1.640 is not spreading at a rate that is unnerving.**
 - The **World Health Organization (WHO)** has **not yet deemed this IHU variant a variant of interest, a variant of concern, or even a variant under investigation.**

Variant of Interest (VOI)

- A variant with specific genetic markers that have been associated with changes to receptor binding, reduced neutralization by antibodies generated against previous infection or vaccination, reduced efficacy of treatments, potential diagnostic impact, or predicted increase in transmissibility or disease severity.
- **There are currently two:**
 - **Mu (B.1.621)**, which emerged in Colombia in early 2021
 - **Lambda(C.37)**, which emerged in Peru in late 2020

Variant of Concern (VOC)

- A variant for which there is evidence of an increase in transmissibility, more severe disease (e.g., increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.
- The B.1.1.7 (UK variant), B.1.351 (South Africa Variant), P.1 (Brazil Variant), B.1.427, and B.1.429 variants circulating in the US are classified as VOCs.

Variant of High Consequence

- A variant of high consequence has clear evidence that prevention measures or medical countermeasures have significantly reduced effectiveness relative to previously circulating variants.

Variants Under Investigation (VUI)

- Public Health England (PHE) says that if the variants of SARS-CoV-2 are considered to have epidemiological, immunological or pathogenic properties, they are raised for formal investigation.
- At this point, the variants emerging from the B.1.617 lineage are designated as VUI.

Mutation, Variant and Strain

- When a virus replicates it doesn't always manage to produce an exact copy of itself.
- This means that, over time, the virus may start to differ slightly in terms of its genetic sequence.

- Any changes to the viral genetic sequence during this process is known as a Mutation.
- Viruses with new mutations are sometimes called Variants. Variants can differ by one or multiple mutations.
- When a new variant has different functional properties to the original virus and becomes established in a population, it is sometimes referred to as a New Strain of the virus.
 - All strains are variants, but not all variants are strains.

Core Sectors Industries

Why in News

The output of **Eight Core Industries** grew at 3.1 %, the slowest pace in eight months in November, indicating slowing momentum in the Indian economy. Barring crude oil and cement, all other sectors recorded positive growth.

- **Eight core sectors are:** Coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity.

Key Points

- **About Eight Core Sectors:**
 - These comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
 - The eight core sector industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.
- **Index of Industrial Production:**
 - IIP is an indicator that measures the changes in the volume of production of industrial products during a given period.
 - It is compiled and published monthly by the **Central Statistical Organization (CSO)**, Ministry of Statistics and Programme Implementation.
 - It is a composite indicator that measures the growth rate of industry groups classified under:
 - Broad sectors, namely, Mining, Manufacturing, and Electricity.
 - Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
 - Base Year for IIP is 2011-2012.

Significance of IIP:

- It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
- IIP remains extremely relevant for the calculation of the quarterly and advance **GDP (Gross Domestic Product)** estimates.

First Multi-Dimensional Adventure Sports Expedition: NIMAS

Why in News

Recently, the Defence Minister flagged-in India's first multi-dimensional adventure sports expedition **conducted by National Institute of Mountaineering and Allied Sports (NIMAS) in France.**

Key Points

- **About:**
 - The expedition was **conducted in November 2021 and the team was led by Director NIMAS** comprising 12 people - **eight Army personnel and four youths of Arunachal Pradesh.**
 - The expedition team **carried out over 250 kilometres of winter trekking in the Alps Mountain Ranges**, which included Tour De Mont Blanc trek covering the French, Swiss and Italian Alps.
- **National Institute of Mountaineering and Allied Sports:**
 - It is an advanced sports training institute **located in the West Kameng district of Arunachal Pradesh.**
 - It operates under the **control and superintendence of the Ministry of Defence.**
 - The institute offers **training across land, air and water, a first of its kind that allows civilians to experience challenges** across a variety of outdoor surfaces as well as pursue a career in adventure sports. It provides structured training to defence personnel as well.

Alps

- Alps is a **small segment of a discontinuous mountain chain** that stretches from the Atlas Mountains of North Africa across southern Europe and Asia to beyond the **Himalayas.**

- The Alpine region **encompasses eight European countries**: Austria, France, Germany, Italy, Liechtenstein, Monaco, Slovenia and Switzerland.
 - The Alps are an **interzonal mountain system (Orobioime)**, or a “transition area” between Central and Mediterranean Europe.
- **Mont Blanc** is the **highest peak**.
- Though they are not as high and extensive as other mountain systems uplifted during the **Paleogene and Neogene periods** (i.e., about 65 million to 2.6 million years ago)—such as the Himalayas (great mountain system of Asia) and the Andes and Rocky mountains (in South America and North America respectively) —they are responsible for **major geographic phenomena**.
- The **Alpine crests isolate one European region from another** and are the source of many of Europe’s major rivers.
- Waters from the Alps ultimately reach the North, Mediterranean, Adriatic, and Black seas.

One Nation-One Grid-One Frequency: National Grid

Why in News

Recently, the **Power Grid Corp. of India Ltd (PGCIL)** celebrated the anniversary of operationalization of **One Nation-One Grid-One Frequency i.e National Grid**.

Key Points

- **Evolution of National Grid:**

- The national grid management on a regional basis started in the sixties.
- The Indian Power system for planning and operational purposes is **divided into five regional grids**.
- The integration of regional grids, and thereby **establishment of National Grid**, was conceptualised in the early nineties.
 - Initially, State grids were interconnected to form a regional grid and India was demarcated into 5 regions namely **Northern, Eastern, Western, North Eastern and Southern region**.
- In 1991 North Eastern and Eastern grids were connected. Further, in 2003, **Western region grid was connected with it**.
- In August 2006 North and East grids were interconnected thereby 4 regional grids are synchronously connected forming a central grid operating at one frequency.
- On 31st December 2013, the southern Region was connected to the Central Grid. Thereby achieving **‘One Nation, One Grid, One Frequency’**.
 - All possible measures are taken to ensure that the grid frequency always remains within the **49.90-50.05 Hz (hertz) band**.

Importance of One Frequency

- Maintaining a consistent electrical frequency is important because multiple frequencies cannot operate alongside each other without damaging equipment.
- This has serious implications when providing electricity at a national scale.

Capacity of National Grid:

- Presently, the country has a total inter-regional transmission capacity of about **1,12,250 MW** which is expected to be enhanced to about **1,18,740 MW by 2022**.

Benefits of One Nation-One Grid-One Frequency:

- **Matching Demand-Supply:** Synchronisation of all regional grids will help in optimal utilization of scarce natural resources by transfer of Power from Resource centric regions to Load centric regions.
- **Development of Electricity Market:** Further, this shall pave the way for establishment of a vibrant Electricity market facilitating trading of power across regions.

Padhe Bharat Campaign

Why in News

Recently, the **Ministry of Education** has launched a **100 days reading campaign 'Padhe Bharat'** (1st January to 10th April 2022).

- **21st February**, which is celebrated as **International Mother Tongue Day**, has also been integrated with this campaign in a view to promote the local language and culture of our society.

Key Points

- **About:**
 - The Campaign is in alignment with the **National Education Policy (NEP) 2020**, which emphasises on promotion of joyful reading culture for children by ensuring availability of age appropriate reading books for children in local/mother tongue/regional/tribal Language.
 - **The NEP 2020** aims at making “**India a global knowledge superpower**”.
 - The NEP is only the **third major revamp of the framework of education in India since independence**. The two earlier education policies were brought in **1968 and 1986**.
 - It will focus on children studying in **Balvatika to Grade 8**.
 - This campaign has **also been aligned with the vision and goals of the Foundational Literacy and Numeracy Mission**.
 - It aims to have the **participation of all stakeholders** at the national and state level including children, teachers, parents, community, educational administrators etc.
- **International Mother Tongue Day:**
 - UNESCO declared **21st February** as International Mother Language Day in 1999 and the World has been celebrating the same since 2000. The day **also commemorates a long struggle by Bangladesh to protect its mother language Bangla**.
 - The resolution to mark 21st February as the International Mother Language Day was suggested by Rafiqul Islam, a Bangladeshi living in Canada. He proposed the said date **to commemorate the 1952 killings in Dhaka during the Bangla Language Movement**.

The initiative is aimed at preserving and promoting mother languages. The aim is to protect the diverse culture and intellectual heritage of different regions of the world.

Education in India

➤ Constitutional Provisions:

- **Part IV** of Indian Constitution, **Article 45 and Article 39 (f) of Directive Principles of State Policy (DPSP)**, has a provision for **state-funded as well as equitable and accessible education**.
- The 42nd Amendment to the Constitution in 1976 **moved education from the State to the Concurrent List**.
 - The education policies by the Central government provide a **broad direction and state governments** are expected to follow it. But it is not mandatory, **for instance Tamil Nadu does not follow the three-language formula** prescribed by the first education policy in 1968.
- The 86th Amendment in 2002 made education an **enforceable right under Article 21-A**.

➤ Related Laws:

- Right To Education (RTE) Act, 2009 aims to provide primary education to **all children aged 6 to 14 years** and enforces education as a Fundamental Right.
 - It mandates non-minority private unaided schools **to keep aside at least 25% of their entry-level seats** for children belonging to disadvantaged sections to create a more integrated and inclusive schooling system.

➤ Related Government Initiatives:

PM POSHAN
NIPUN Bharat Mission.
Samagra Shiksh.
NISHTHA (National Initiative for School Heads and Teachers Holistic Advancement).
Digital Infrastructure for Knowledge Sharing (DIKSHA).
Study Webs of Active Learning for Young Aspiring Minds (SWAYAM).
Scheme for Promotion of Academic and Research Collaboration (SPARC).
PRAGYATA Guidelines.
Beti Bachao Beti Padhao.

Ayush Aahaar

Why in News

Recently, the Ministry of Ayush made a new beginning by making 'Ayush Aahaar' available at its canteen at Ayush Bhawan (Delhi).

- It aims to **promote a nutritional diet and a healthy living.**

Key Points

- **Meaning of 'Ayush':**
 - Traditional & Non-Conventional Systems of Health Care and Healing which Include Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy etc.
 - The positive features of the Indian systems of medicine namely their diversity and flexibility; accessibility; affordability, a broad acceptance by a large section of the general public; comparatively lesser cost and growing economic value, have great potential to make them providers of healthcare that the large sections of our people need.
- **Some Initiatives of the Ayush Ministry:**
 - **National Ayush Mission:**
 - Government is implementing the **Centrally Sponsored Scheme** of Mission through States/UTs for development and promotion of Ayush system of medicine.
 - The government has decided to continue till 2026.
 - **Aahaar Kranti Mission:**
 - The mission is dedicated to spreading awareness about nutrition.
 - **New Portals on Ayush Sector:**
 - **Five new portals on Ayush Sector** have been launched - CTRI (Clinical Trial Registry of India), RMIS (Research Management Information System), SAHI (Showcase of Ayurveda Historical Imprints), AMAR (Ayush Manuscripts Advanced Repository), and e-Medha (electronic Medical Heritage Accession).
 - **ACCR Portal and Ayush Sanjivani App:**
 - **Ayush Clinical Case Repository Portal:** To portray the strengths of Ayush systems for treatment of various disease conditions.

- **AYUSH Sanjivani App Third Version:** It will facilitate a significant study and documentation regarding the efficacy of selected Ayush interventions, including Ayush 64 and Kabasura Kudineer medicines in the management of asymptomatic and mild to moderate **Covid-19** patients.

Sea Dragon 22 Exercise

Why in News

Recently, the US Sea Dragon 22 exercise began along with the navies of India, Australia, Canada, Japan and South Korea in the Pacific Ocean.

- **India, Japan, Australia and the US** are also part of the **Quadrilateral Security Dialogue (Quad)**, and also participate in the **Malabar exercise.**

Key Points

- **About:**
 - Sea Dragon is a **US-led multi-national exercise** designed to practice and discuss **Anti-submarine warfare tactics** to operate together in response to traditional and non-traditional **maritime security challenges** in the **Indo-Pacific region.**
 - It is an **annual exercise.**
- **Significance:**
 - The exercise **assumes significance in the face of strained relations** that some countries have with China and the growing forays of the PLA-Navy into the **Indian ocean region.**
 - The Indian Navy has recently inducted two more **Poseidon 8I maritime reconnaissance** and anti-submarine warfare aircraft, which would further boost its ability to keep an eye over the Chinese ships and submarines in the region.

Omisure Kit

Why in News

Recently, the **Indian Council of Medical Research (ICMR)** has approved a **made-in-India testing kit, named Omisure**, for detecting the **Omicron variant** of the **SARS-CoV-2 coronavirus.**

- The kit currently in use to detect Omicron in the country has been developed by the US-based scientific instrumentation company Thermo Fisher.
- Further, the **World Health Organisation (WHO)** has proposed some measures to strengthen laboratory capacities, with the focus on addressing inequalities in access to Covid-19 diagnostics tools.

Key Points

- **About Omisure:**
 - This RT-PCR kit is **manufactured by Tata Medical and Diagnostics.**
 - It uses **S-Gene Target Failure (SGTF) strategy.**
 - Currently, Omicron patients are detected only after genome sequencing.
 - However, the Omisure test kit helps to eliminate this step and detects the Omicron variant of SARS-CoV2 in the nasopharyngeal/ oropharyngeal specimens during the RT-PCR tests.
 - The Omicron variant underwent several mutations in the S-gene, the SGTF strategy checks and indicates it in patients who are detected Covid positive.
 - **'S' Gene, ORF, 'N' gene, Rdrp, 'E' gene** are viral genes that are targeted to detect Covid-19 virus.
- **WHO Propositions:**
 - **Genomics Consortium:** The WHO is proposing to set up a SARS-CoV-2 genomics consortium in **Southeast Asia.**
 - The consortium will help enhance genomic sequencing and surveillance to develop a robust regional system for detecting and monitoring the evolution of SARS-CoV-2 viral threats for epidemics and pandemics.
 - **Genome Sequencing:** WHO had called for increased **genome sequencing.**
 - This will also help improve the timely use of genomic data for public health decision-making and to strengthen preparedness and response to future outbreaks/ pandemics.
 - **Addressing Key Barriers:** Need to check key barriers like **limited trained workforce and other resources** for sustained long-term testing and sequencing capacities.

Indian Council of Medical Research (ICMR)

- ICMR is the apex body in India for the formulation, coordination and promotion of biomedical research.
- It was founded in 1911 with the name of **Indian Research Fund Association (IRFA)** and renamed as ICMR in 1949.
- It is funded by the Government of India through the Department of Health Research, Ministry of Health & Family Welfare.

Chilika Lake: Odisha

Why in News

As per the **water bird status survey-2022** conducted in the **Chilika lake**, nearly **11 lakhs water bird and wetland dependent species** visited the lake.

- Chilika Lake is the **largest brackish water lake and wintering ground of the birds** in the Indian subcontinent.

Key Points

- **About Chilika Lake:**
 - Chilika is **Asia's largest and world's second largest lagoon.**
 - In 1981, Chilika Lake was designated the **first Indian wetland** of international importance under the **Ramsar Convention.**
 - Major attraction at Chilika is **Irrawaddy dolphins** which are often spotted off Satapada Island.
 - The large **Nalabana Island (Forest of Reeds)** covering about 16 sq km in the lagoon area was declared a bird sanctuary in 1987.

- **Kalijai Temple** - Located on an island in the Chilika Lake.
- Chilika lake hosts birds migrating from thousands of miles away from the **Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and South East Asia, Ladakh** and the Himalayas.
- The birds find the **vast mud-field** and **abundant fish stock** here suitable to congregate.
- **Migratory Species in India:**
 - India is a temporary home to several **migratory animals and birds**.
 - The important among these include **Amur Falcons, Bar-headed Geese, Black-necked cranes, Marine turtles, Dugongs, Humpback Whales, etc.**
 - India has also launched the **National Action Plan** for the conservation of migratory species under the Central Asian Flyway as India is a party to **Convention on Migratory Species (CMS)**.
- They both refused, and so they were sentenced to death and were bricked alive.
- These two greats preferred death instead of deviating from the noble principles of Dharma.
- **About Guru Gobind Singh:**
 - The last of the ten Sikh Gurus, Guru Gobind Singh was born on **22nd December 1666** in Patna, Bihar.
 - His birth anniversary is based on the **Nanakshahi calendar**.
 - He became the Sikh guru at the age of nine, following the demise of his father, Guru Tegh Bahadur, the ninth Sikh Guru.
 - He was assassinated in 1708.
- **Contributions:**
 - **Religious:**
 - He is known for his significant contributions to the Sikh religion, including the **introduction of the turban to cover hair**.
 - He also **founded the principles of Khalsa or the Five 'K's**.
 - The **Five K's** are kesh (uncut hair), kanga (wooden comb), kara (iron or steel bracelet), kirpan (dagger) and kachera (short breeches).
 - These were the five articles of faith that a Khalsa must always adorn.
 - He also **laid down many other rules for the Khalsa warriors** to follow like abstaining from tobacco, alcohol, halal meat, etc. The Khalsa warrior was also duty-bound to protect innocent people from persecution.
 - He **named Guru Granth Sahib, the religious text of the Khalsas and the Sikhs**, as the next Guru of the two communities.
 - **Martial:**
 - He **fought against the Mughals in the battle of Muktsar in 1705**.
 - In the **Battle of Anandpur (1704)**, the Guru lost his mother and two minor sons who were executed. His eldest son also died in battle.
 - **Literary:**
 - His literary contributions include the **Jaap Sahib, Benti Chaupai, Amrit Savaiye, etc.**
 - He also **wrote the Zafarnama** which was a letter to the Mughal Emperor Aurangzeb.

Veer Baal Diwas

Why in News

Recently, the Prime Minister of India has declared that **26th December** shall henceforth be marked as **"Veer Baal Diwas"** to pay homage to the courage of the **"Sahibzades"**, four sons of Guru Gobind Singh, the last Sikh guru.

- While all four were martyred, the date has been chosen as **it was the day observed as the martyrdom day of the Sahibzadas Zorawar Singh and Fateh Singh**, who were killed at the tender age of six and nine in Sirhind (Punjab) by Mughal forces.

Key Points

- **About Sahibzadas Zorawar Singh and Fateh Singh:**
 - Sahibzada Jorawar Singh and Sahibzada Fateh Singh are **among the most revered martyrs in Sikhism**.
 - A combination of **Mughals soldiers besieged Anandpur Sahib on the orders of emperor Aurangzeb (1704)**.
 - The two sons of Guru Gobind Singh were captured.
 - They were offered safe passage if they became Muslims.

World Hindi Day

Why in News

World Hindi Day (WHD) is celebrated every year on **10th January** to promote the Hindi language all around the world.

- This year (2022) on the occasion **UNESCO's World Heritage Centre (WHC)** has agreed to **publish Hindi descriptions of India's world heritage sites** on WHC website.
- WHC was established in 1992 to coordinate all matters related to World Heritage. The Centre organises **the annual sessions of the World Heritage Committee and its Bureau**, and provides advice to States Parties in the preparation of site nominations.

Key Points

- **About:**
 - It was **first celebrated in 2006** to commemorate the anniversary of the first World Hindi Conference which was held in Nagpur on 10th January, 1975. It is different from **Hindi Divas**(National Hindi Day).
 - It is also celebrated by **Indian embassies located in various parts of the world.**
 - The World Hindi Secretariat building was **inaugurated in Mauritius in 2018.**
- **National Hindi Day:**
 - Hindi, written in the Devanagari script, was adopted as **the official language of the Republic of India on 14th September, 1949.** Therefore Hindi Divas is celebrated on 14th September every year.
 - Kaka Kalelkar, Maithili Sharan Gupta, Hazari Prasad Dwivedi, Seth Govindadas **made important contributions to make Hindi the official language.**
 - Hindi is also an **eighth schedule language.**
 - Article 351 pertains to **'Directive for development of the Hindi language'.**
- **Government Initiatives to Promote Hindi:**
 - The **Central Hindi Directorate was established in 1960** by the Government of India under the Ministry of Education.
 - **Indian Council for Cultural Relations (ICCR)** has established 'Hindi Chairs' in various foreign universities/institutions abroad.

LILA-Rajbhasha (Learn Indian Languages through Artificial Intelligence) is a multimediaself-tutoring application for learning Hindi.

- **E-Saral Hindi Vakya Kosh and E-Mahashabdkosh Mobile App**, both initiatives of the Department of Official Language, aim to harness information technology for the growth of Hindi.
- **Rajbhasha Gaurav Puraskar and Rajbhasha Kirti Puraskar** recognise contributions to Hindi.

Hindi Language

- Hindi got its name from the **Persian word Hind, meaning 'land of the Indus River'**. Turk invaders in the early 11th century named the language of the region Hindi, 'language of the land of the Indus River'.
- It is the official language of India, English being the other official language.
- Hindi is **also spoken in some countries outside India**, such as in Mauritius, Fiji, Suriname, Guyana, Trinidad & Tobago and Nepal.
- Hindi in its present form emerged through different stages, during which it was known by other names. The earliest form of **old Hindi was Apabhramsa. In 400 AD Kalidas wrote a romantic play in Apabhramsa called Vikramorvashiyam.**
- The modern **Devanagari script came into existence in the 11th century.**

National Youth Day 2022

Why in News

National Youth Day (NYD) is held every year on **12th January** to observe the birth anniversary of **Swami Vivekananda.**

- In 1999, the United Nations decided to commemorate **International Youth Day** every year on **12th August.**

Key Points

➤ About NYD:

- In **1984**, the Indian Government first declared to **celebrate the birthday of Swami Vivekananda** as National Youth Day. Since then the day has been celebrated as **National Youth Day all over the country**.
- The day is celebrated to **highlight the youths who are the future of our country and to commemorate the birth anniversary of Swami Vivekananda** who always motivated the youth of the country and spoke about the right use of the youth in the development of the country.

➤ Theme 2022: It's all in the mind.

➤ 25th National Youth Festival:

- The Prime Minister inaugurated the 25th National Youth Festival **which is a five-day festival**.
- The main purpose to celebrate the festival is **to increase bonding between the diverse cultures of the country to strengthen the unity** of the nation.
- The festival is organized by **National Service Scheme (NSS)** and **Nehru Yuva Kendra Sangathan (NYKS)** under the aegis of Ministry of Youth Affairs and Sports.

➤ Related Initiatives:

- National Youth Policy-2014
- **Generation Unlimited in India (YuWaah)**
- **Pradhan Mantri Kaushal Vikas Yojana**
- **YUVA: Prime Minister's Scheme For Mentoring Young Authors**
- **World Programme of Action for Youth**
- **Global Youth Summit**
- **Global youth skills day**

Swami Vivekananda (1863-1902)

- He was **born as Narendranath Datta on 12th January, 1863**.
- Introduced the world to the Indian philosophies of Vedanta and Yoga.
- He was the chief disciple of the **19th-century mystic Ramakrishna Paramhansa**.
- Laid the greatest **emphasis on education for the regeneration of our motherland**. He advocated a man-making character-building education.

- Established the **Ramakrishna Mission in 1897**. It is an organization which works in the area of value-based education, culture, health, women's empowerment, youth and tribal welfare and relief and rehabilitation.
- He died at **Belur Math in 1902**. **Belur Math, located in West Bengal**, is the headquarters of Ramakrishna Math & Ramakrishna Mission.

Meteorite (ALH) 84001

Why in News

Recently, a new study published in the journal Science, offers an explanation for the existence of organic compounds on the surface of **Meteorite called (ALH) 84001**.

- It landed on Earth from Mars in 1984, and can possibly unravel the existence of life on **Mars (Red Planet)**.

Key Points

➤ About:

- Meteorite named Alan Hills (ALH) 84001 was found in December, 1984 in the **Far Western Icefield of Allan Hills in Antarctica by a US meteorite hunting expedition**. At the time of its discovery it was recognised as the **most unusual rock collected**.
 - It was described at the time of discovery as, shaped like a rounded brick or a large potato, about 6 inches long by 4 inches by 3 inches, and was partly covered with black glass.
- In 2021, **NASA's Perseverance rover** collected the first sample of Martian rock.
- It can be said with **certainty that the meteorite did come from the Red planet** because of the **presence of traces of certain gases that are just like the Martian atmosphere**.

➤ Study:

- The study posits that the **organic compounds found in the meteorite were a result of the interactions between water and rocks** that occurred on Mars. These interactions were similar to **those that happen on Earth**.
- These kinds of **non-biological, geological reactions are responsible for a pool of organic carbon compounds** from which **life could have evolved**

and presents a basis that must be taken into consideration when searching for evidence of past life on Mars.

- The search for life on Mars is not just an attempt to answer the question ‘are we alone, but also It relates to **early Earth environments and addresses the question of ‘where did we come from.**

➤ **Significance of Studying meteorites:**

- Scientists are interested in studying meteorites as examining them **offers clues about the beginning of the solar system** and maybe even the Earth.
 - Space agencies have launched specific missions to asteroids to be able to study them.
 - One such example is **NASA’s OSIRIS-REx mission** launched in 2018 with the aim of reaching **asteroid Benu** and getting back a sample from the ancient asteroid.

Difference between Meteor, Meteorite and Meteoroid

- The difference between **a meteor, meteorite and meteoroid** is nothing but where the object is.
- Meteoroids are objects **in space that range in size from dust grains to small asteroids.** “Think of them as “space rocks,”.

- But when meteoroids enter the Earth’s atmosphere they are called **meteors.**
- But if a meteoroid enters the Earth’s atmosphere and hits the ground, it is called a **meteorite.**

■■■



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