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Current Affairs (CONSOLIDATION)

**AUGUST 2021
(PART – II)**

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Polity and Governance

Highlights

- Fundamental Rights to Reside and to Move About Freely
- Criterion for Deciding Creamy Layer
- Slow Pace of Criminal Justice System Reforms
- Collegium System for the Appointment of Judges
- Tribunals Reforms Bill, 2021
- Right to Privacy & Right to be Forgotten
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- Hindustan-228 Civil Aircraft
- National Mission on Edible Oil-Oil Palm

Fundamental Rights to Reside and to Move About Freely

Why in News

Recently, while setting aside an externment order against a journalist, the **Supreme Court (SC)** ruled that **a person's fundamental right to reside and to move about freely anywhere in India cannot be refused on "flimsy grounds"**.

- **Externment orders** prevent the movement of a person in certain areas.
- According to the SC, the drastic action of externment should only be taken in exceptional cases, to maintain law and order in a locality and/or prevent a breach of public tranquility and peace.

Key Points

- **Freedom to Move Freely Throughout the Territory of India:**
 - **Article 19(1)(d) of the Indian Constitution** entitles every citizen to move freely throughout the territory of the country.
 - This right is protected **against only state action and not private individuals**.

- Moreover, it is **available only to the citizens and to shareholders of a company** but not to foreigners or legal persons like companies or corporations, etc.
- The freedom of movement has **two dimensions**, viz, internal (right to move inside the country) and external (right to move out of the country and right to come back to the country).
 - **Article 19 protects only the first dimension.**
 - The second dimension is dealt by Article 21 (Right to life and personal liberty).
- **Restrictions** on this freedom can only be **imposed on two grounds** which are mentioned in the **Article 19(5)** of the constitution itself, namely, the interests of the general public and the protection of interests of any scheduled tribe. For example:
 - The Supreme Court held that the freedom of movement of prostitutes can be restricted on the grounds of public health and in the interest of public morals.
 - The entry of outsiders in tribal areas is restricted to protect the distinctive culture, language, customs and manners of scheduled tribes and to safeguard their traditional vocation and properties against exploitation.
- **Freedom to Reside and Settle in any part of the Territory of India:**

Note:



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- According to **Article 19(1)(e) of the Constitution**, every citizen of India has the right “to reside and settle in any part of the territory of India.”
- The object of the clause is **to remove internal barriers** within India or any of its parts.
- This right is also **subject to reasonable restrictions mentioned in clause (5) of Article 19**.
- **Right to reside and the right to move freely** throughout the country **are complementary** and often go together.

Article 19 of the Constitution

- Article 19 entails **freedom of speech and expression**.
- It implies that every citizen has the **right to express his views, opinions, beliefs and convictions freely by word of mouth, writing, printing, picturing** or in any other manner.
- **Article 19** guarantees to all citizens the **six rights**. These are:
 - Right to freedom of speech and expression.
 - Right to assemble peaceably and without arms.
 - Right to form associations or unions or co-operative societies.
 - Right to move freely throughout the territory of India.
 - Right to reside and settle in any part of the territory of India.
 - Right to practice any profession or to carry on any occupation, trade or business.
- **Restrictions on Freedom of Speech and Expression (Article 19(2)):**
 - The reasons for such restrictions are in the interests of: Security, Sovereignty and integrity of the country, Friendly relations with foreign countries, Public order, Decency or morality, Hate speech, **Defamation, Contempt of court**.

Criterion for Deciding Creamy Layer

Why in News

The **Supreme Court of India** recently held that the **economic criterion cannot be the sole basis for deciding the creamy layer from among backward classes for the**

purpose of excluding it from the purview of providing reservation.

- The SC was hearing a petition challenging two notifications issued by the Haryana government sub-classifying backward classes solely on economic basis while fixing the criteria for creamy layer.

Key Points

- **SC Verdict:**
 - Recalled the **ruling in the Indra Sawhney-II case**, reported in 2000. **Haryana's notifications have violated the law declared in the Indra Sawhney judgment** by identifying creamy layer only on the basis of income.
 - The basis of exclusion of ‘creamy layer’ cannot be merely economic - the **government cannot deny reservation to a person belonging to a backward community solely on the ground that he or she is rich**.
 - **Social advancement, higher employment in government services, etc**, play an equal role in deciding whether such a person belonged to the creamy layer and could be denied quota benefits.
 - The SC has illustrated that **‘creamy layer’ would include “persons from backward classes who occupied posts in higher services like IAS, IPS and All India Services** had reached a higher level of social advancement and economic status, and therefore, were not entitled to be treated as backward”.
 - People with sufficient income who were in a **position to provide employment to others should also be taken to have reached a higher**

The debate

- ‘Creamy layer’ denotes relatively forward, better-educated and socially advanced members of OBCs
- The term was introduced by Sattanathan Commission in 1971, which recommended that ‘creamy layer’ should be excluded from quota benefits
- In Indira Sawhney judgment (1992), SC directed that ‘creamy layer’ among OBCs be excluded from quota benefits
- After a constitution bench judgment in 2018, the concept is applicable also to SC/ST communities
- The Centre has defined ‘creamy layer’ among OBCs as those earning more than ₹8 lakh per annum



Note:

social status and therefore, should be treated as outside the backward class.

- Persons from backward classes who had **higher agricultural holdings or were receiving income from properties, beyond a prescribed limit**, do not deserve the benefit of reservation.

➤ **Creamy Layer:**

- The creamy layer **sets a threshold within which OBC reservation benefits are applicable.**
- The creamy layer principle was **based on the fundamental right to equality.** Unless it is applied, the genuinely deserving person would not access the reservation.
- The **basis of exclusion should not merely be economic**, unless the economic advancement is so high that it necessarily means social advancement.
 - While the income of a person can be taken as a measure of his social advancement, the limit to be prescribed should not be such as to result in taking away with one hand what is given with the other.
 - The income limit must be such as to mean and signify social advancement.

➤ **Creamy Layer as defined by the Central Government:**

- The **Department of Personnel and Training (DoPT)** have listed out various categories of people of certain rank/status/income whose children cannot avail benefit of OBC reservation.
 - **Income:** For those not in government, the current threshold is an **income of Rs 8 lakh per year.**
 - The income threshold is supposed to be raised every three years.
 - It was last revised in 2017 (more than three years now).
 - **Rank of Parents:** For children of government employees, the threshold is based on their parents' rank and not income.
 - For instance, an individual is considered to fall within the creamy layer if either of his or her parents is in a constitutional post; if either parent has been directly recruited in Group-A; or if both parents are in Group-B services. There are other criteria as well.

Slow Pace of Criminal Justice System Reforms

Why in News

Recently, a group of experts under the **National Human Rights Commission (NHRC)** has expressed concerns over the slow pace of reforms in the criminal justice system to ensure speedy justice.

- NHRC of India is **an independent statutory body** established on 12th October, 1993 as per provisions of Protection of Human Rights Act, 1993, later amended in 2006.

Key Points

➤ **Criminal Justice System in India:**

- Criminal Justice System **refers to the agencies of government charged with enforcing law, adjudicating crime, and correcting criminal conduct.**
- It is essentially **an instrument of social control.**
- Criminal justice system reforms broadly **comprises three sets of reforms viz. Judicial reforms, Prison reforms, Police reforms.**

○ **Objective:**

- To prevent the occurrence of crime.
- To punish the transgressors and the criminals.
- To rehabilitate the transgressors and the criminals.
- To compensate the victims as far as possible.
- To maintain law and order in the society.
- To deter offenders from committing any criminal act in the future.

➤ **Legal Framework for Criminal Jurisprudence in India:**

- The **Indian Penal Code (IPC)** is the official criminal code of India drafted in 1860 on the recommendations of the first law commission of India established in 1834 under the Charter Act of 1833 under the Chairmanship of Lord Thomas Babington Macaulay.
- The **Code of Criminal Procedure (CrPC)** is the main legislation on procedure for administration of substantive criminal law in India. It was enacted in 1973 and came into force on 1st April 1974.

➤ **Issues in Criminal Justice System:**

Note:



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- **Huge Pendency of Cases:** There were about 4.4 crore pending cases in the Supreme Court, High Courts and district courts.
- **High Number of Undertrials:** India has one of the world's largest number of undertrial prisoners. This delay in disposal of cases is leading to human rights violations of the undertrials and convicts.
- **Delay in Police Reforms:** Despite the Supreme Court's directions on police reforms, there had been hardly any changes on the ground.
 - Corruption, huge workload and accountability of police is a major hurdle in speedy and transparent delivery of justice.
- **Colonial Era Laws:** The codification of criminal laws in India was done during the British rule, which more or less remains the same even in the 21st century.

Malimath Committee (2000) Recommendations

- **Rights of the Accused:** The Committee suggested that a Schedule to the Code be brought out in all regional languages so that the accused knows his/her rights, as well as how to enforce them and whom to approach when there is a denial of those rights.
- **Police Investigation:** The Committee suggested hiving off the investigation wing from Law and Order.
- **Court and Judges:** The report pointed out the judge-population ratio in India is 10.5 per million population as against 50 judges per million population in many parts of the world.
 - It suggested the increase in strength of judges and courts.
- **Witness Protection:** It suggested separate witness protection law so that safety and security of witnesses can be ensured and they can be treated with dignity.
- **Vacations of Court:** It recommended reducing the vacations of court on account of long pendency of cases.

Collegium System for the Appointment of Judges

Why in News

Recently, the **Supreme Court (SC) Collegium**, led by **Chief Justice of India (CJI)** has recommended to the government nine names for appointment as SC judges.

- The Collegium has for the **first time, in one single resolution, recommended three women judges.**
- It has thus sent a **strong signal in favour of representation of women** in the highest judiciary.

Key Points

- **Collegium System:**
 - It is the **system of appointment and transfer of judges** that has **evolved through judgments** of the SC, and not by an Act of **Parliament** or by a provision of the Constitution.
 - **Evolution of the System:**
 - **First Judges Case (1981):**
 - It declared that the **"primacy" of the CJIs recommendation** on judicial appointments and transfers can be refused for "cogent reasons."
 - The ruling gave the **Executive primacy over the Judiciary in judicial appointments** for the next 12 years.
 - **Second Judges Case (1993):**
 - SC **introduced the Collegium system**, holding that "consultation" really meant "concurrence".
 - It **added that it was not the CJI's individual opinion**, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
 - **Third Judges Case (1998):**
 - SC on **President's reference (Article 143)** **expanded the Collegium to a five-member body**, comprising the CJI and four of his senior-most colleagues.
 - The SC **collegium is headed by the CJI** and comprises **four other senior most judges of the court.**
 - A **HC collegium is led by its Chief Justice** and four other senior most judges of that court.
 - Names recommended for appointment by a HC collegium reaches the government only after **approval by the CJI and the SC collegium.**
 - Judges of the **higher judiciary are appointed only through the collegium system** and the government has a role only after names have been decided by the collegium.
 - The **government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB)**

Note:



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if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.

- **Intelligence Bureau (IB):** It is a reputed and established intelligence agency. It is authoritatively controlled by the Ministry of Home Affairs.
- It can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound, under Constitution Bench judgments, to appoint them as judges.
- **Procedure for Various Judicial Appointments:**
 - **For CJI:**
 - The **President of India appoints the CJI** and the other SC judges.
 - As far as the CJI is concerned, the **outgoing CJI recommends his successor**.
 - In practice, **it has been strictly by seniority** ever since the supersession controversy of the 1970s.
 - **For SC Judges:**
 - For other judges of the SC, the **proposal is initiated by the CJI**.
 - The CJI **consults the rest of the Collegium members**, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
 - The **consultees must record their opinions in writing** and it should form part of the file.
 - The Collegium **sends the recommendation to the Law Minister**, who forwards it to the Prime Minister to advise the President.
 - **For Chief Justice of High Courts:**
 - The **Chief Justice of the High Court** is appointed as per the policy of having Chief Justices from **outside the respective States**.
 - The Collegium takes the call on the elevation.
 - High Court **judges are recommended by a Collegium comprising the CJI and two senior-most judges**.
 - The proposal, however, is **initiated by the outgoing Chief Justice of the High Court concerned** in consultation with two senior-most colleagues.
 - The **recommendation is sent to the Chief Minister**, who advises the Governor to send the proposal to the Union Law Minister.

- **Criticism of the Collegium System:**
 - Opaqueness and a **lack of transparency**.
 - Scope for **nepotism**.
 - Embroilment in public **controversies**.
 - **Overlooks** several **talented** junior judges and advocates.
- **Attempts to reform the Appointment System:**
 - The attempt made to replace it by a '**National Judicial Appointments Commission**' (through Ninety-ninth Amendment Act, 2014) was struck down by the court in 2015 on the ground that it posed a threat to the independence of the judiciary.

Related Constitutional Provisions

- **Article 124(2)** of the Indian Constitution provides that the **Judges of the SC are appointed by the President after consultation** with such a number of the Judges of the SC and of the High Courts in the States as the President may deem necessary for the purpose.
- **Article 217** of the Indian Constitution states that the **Judge of a High Court shall be appointed by the President in consultation with the CJI, the Governor of the State**, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.

Tribunals Reforms Bill, 2021

Why in News

Recently, the **Supreme Court of India** (SC) has challenged the government to produce material showing its reasons for introducing the **Tribunal Reforms Bill of 2021**.

- The Bill replaces the **Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021** which was quashed by the Supreme Court.

Key Points

- **Issues Raised by SC:**
 - **Unconstitutional Legislative Overriding:** There was **lack of discussion** over the bill, and the government has re-enacted the very same provisions struck down by the Court in the **Madras Bar Association case (2021)**.
 - It amounts to "**unconstitutional legislative overriding**" of the judgement passed by the SC.

Note:

- **Repeated Violation of SC Orders:** The Centre is not following the repeated directions issued by the Court to ensure the **proper functioning of the Tribunals**.
 - The provisions in the ordinance regarding **conditions of service** and **tenure of Tribunal Members** and **Chairpersons** were struck down by the Supreme Court.
- **Security of Tenure:** The Tribunals Reforms Act, 2021 bars appointments to tribunals of persons below 50 years of age. It **undermines the length/ security of tenure**.
- **Undermines the Separation of Powers:** The bill allows the **Central Government to take a decision** on the recommendations made by the selection Committee, preferably within three months from the date of such recommendation.
 - **Section 3(7)** of the bill mandates the recommendation of a panel of two names by the search-cum selection committee to the Central Government, violating the **principles of separation of powers** and **judicial independence**.
- **Vacant Positions in Tribunals:** India now has 16 tribunals including the National Green Tribunal, the Armed Forces Appellate Tribunal, the Debt Recovery Tribunal among others which also suffer from **crippling vacancies**.
 - Existence of large number of vacancies of Members and Chairpersons and the inordinate delay caused in filling them up has resulted in weakening of the tribunals.
- **Detrimental to the Decision-making Process:** These cases will be transferred to High Courts or commercial civil courts immediately.
 - The lack of specialisation in regular courts could be detrimental to the decision-making process.
 - For example, the **Film Certification Appellate Tribunal (FCAT)** exclusively heard decisions appealing against decisions of the censor board, which requires expertise in art and cinema.
 - Further, the **dissolution of certain tribunals** and appellate bodies, and the transfer of their functions to High Courts can be criticized on the grounds that Indian courts are **already overburdened** with their existing caseload.
- **About the Tribunals Reforms Bill, 2021:**
 - **Dissolution of Existing Bodies:** The Bill seeks to dissolve certain appellate bodies and transfer their functions to other existing judicial bodies. For example, the disputes heard by the **Film Certification Appellate Tribunal** will be addressed by the **High Court**.
 - **Merging of Existing Bodies:** The Finance Act, 2017 merged **tribunals** based on domain. For example, the **Competition Appellate Tribunal** has been merged with the **National Company Law Appellate Tribunal**.
 - **Search-cum-selection Committees:** The Chairperson and Members of the Tribunals will be appointed by the central government on the recommendation of a Search-cum-Selection Committee. The Committee will consist of:
 - The **Chief Justice of India, or a Supreme Court Judge** nominated by him, as the **Chairperson** (with casting vote).
 - **Two Secretaries** nominated by the central governments.
 - The **sitting or outgoing Chairperson**, or a retired Supreme Court Judge, or a retired Chief Justice of a High Court, and
 - The **Secretary of the Ministry** under which the Tribunal is constituted (with no voting right).
 - **State Administrative Tribunals:** It will have separate search-cum-selection committees with the **Chief Justice of the High Court** of the concerned state, as the Chairman (with a casting vote).
 - **Eligibility and Term of Office:** The Bill provides for a four-year term of office (subject to the upper age limit of 70 years for the Chairperson, and 67 years for members).
 - Further, it specifies a minimum age requirement of 50 years for appointment of a chairperson or a member.
 - **Removal of Tribunal Members:** It states that the central government shall, on the recommendation of the Search-cum-Selection Committee, remove from office any Chairperson or a Member.

Tribunals

- The term '**Tribunal**' is derived from the word '**Tribunes**', which means '**Magistrates of the Classical Roman Republic**'.

Note:

- Tribunal is a **quasi-judicial institution** that is set up to deal with problems such as resolving **administrative or tax-related disputes**.
 - It performs a number of functions like adjudicating disputes, determining rights between contesting parties, making an administrative decision, reviewing an existing administrative decision and so forth.
- The objective may be to reduce the caseload of the judiciary or to bring in subject expertise for technical matters.
- **Constitutional Provisions:**
 - Tribunals were not part of the original constitution, it was incorporated in the Indian Constitution by **42nd Amendment Act, 1976**.
 - **Article 323-A:** It deals with Administrative Tribunals.
 - **Article 323-B:** It deals with tribunals for other matters.
 - **Article 262:** The Indian Constitution provides a role for the Central government in adjudicating conflicts surrounding inter-state rivers that arise among the state/regional governments.

Right to Privacy & Right to be Forgotten

Why in News

A case was filed by an actor in the Delhi High Court, pleading to remove the videos that were uploaded on the online platforms, without her consent.

- The court observed that the **right to privacy** of the woman is to be protected.
- On the other hand, online platforms questioned their **right to publish**.

Key Points

- **Judgement:** Right to privacy includes the right to be forgotten and the right to be left alone.
- **About the Right to Privacy:** In **Puttaswamy v. Union of India case, 2017**, the Right to Privacy was declared a fundamental right by the Supreme Court.
 - 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**.

- **About Right to be Forgotten (RTBF):** It is the right to have **publicly available personal information removed** from the internet, search, databases, websites or any other public platforms, once the personal information in question is no longer necessary, or relevant.
 - The RTBF **gained importance after the 2014** decision of the Court of Justice of the European Union ("CJEU") in the Google Spain case.
 - In the Indian context, the Supreme Court in **Puttaswamy v. Union of India, 2017** noted that the RTBF was **a part of the broader right of privacy**.
 - The RTBF emerges from the **right to privacy under Article 21** and partly from the **right to dignity under Article 14**.
- **About the Right to be Left Alone:** It doesn't mean that one is withdrawing from society. It is an expectation that society will not interfere in the choices made by the person so long as they do not cause harm to others.
- **Issues Associated with RTBF:**
 - **Privacy vs. Information:** The existence of RTBF in a given situation depends on its balancing with other conflicting rights such as the right to free expression or other publication rights.
 - For example, a person may want to de-link information about his criminal records and make it difficult for people to access certain journalistic reports when they google him.
 - This brings the person's right to be left alone, derived from Article 21, directly in conflict with the rights of the media to report on issues, flowing from Article 19.
 - **Enforceability Against Private Individuals:** The RTBF will normally be claimed against a private party (a media or news website).
 - This raises the question of whether fundamental rights can be enforced against the private individual, which is generally enforceable against the state.
 - Only Article 15(2), Article 17 and Article 23 provides protection against a private act of a private party that is challenged based on its violation of the Constitution.
 - **Ambiguous Judgements:** In recent years, without a data protection law to codify RTBF, there are some inconsistent and peculiar adjudications of the right by various high courts.

Note:



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- Courts in India have repeatedly either accepted or rejected the application of RTBF while completely ignoring the wider constitutional questions associated with it.

37th Pragati Meeting

Recently, the Prime Minister (PM) chaired the 37th edition of **Pro-Active Governance And Timely Implementation (PRAGATI)** - the Information and Communication Technology (ICT) based multimodal platform, involving Central and State governments.

- The PM reviewed various **projects worth Rs 1,26,000 crores** along with the **'One Nation – One Ration Card' (ONORC) scheme**.
- The ONORC scheme **aims at providing subsidised food grains to migrant workers and their family members at any fair price shop anywhere in the country** under the **National Food Security Act, 2013**.

Key Points

- **About:**
 - Launched in 2015.
 - It has been designed by the Prime Minister's Office (PMO) team with the help of the **National Informatics Center (NIC)**.
 - It enables the PM to discuss the issues with the concerned central and state officials with full information and latest visuals of the ground-level situation.
 - The PRAGATI platform uniquely bundles three latest technologies: **Digital data management, video-conferencing and geo-spatial technology**.
 - It is a **three-tier system** (PMO, Union Government Secretaries, and Chief Secretaries of the States).
- **Objective:**
 - Grievance Redressal.
 - Programme Implementation.
 - Project Monitoring.
- **Significance:**
 - It promotes **Cooperative Federalism** as it brings together the Secretaries of Government of India and the Chief Secretaries of the States.
 - It is a robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders.

- It is an innovative project in **e-Governance** and **Good Governance**.

Concerns:

- The direct interaction of the PM with the state secretaries without involving the political executives of the states is undermining the state political executive.
- It is also said that this is leading to a concentration of power in the extra-constitutional office of PMO.

SVEEP: ECI

Why in News

Recently, the **Election Commission of India (ECI)** organized a two-day **SVEEP (Systematic Voters' Education and Electoral Participation)** Consultation Workshop.

Key Points

- **SVEEP:**
 - Started in **2009**, as the **flagship program of the ECI for voter education**.
 - **Primary goal** is to build an inclusive & participative democracy by encouraging all eligible citizens to vote and make an informed decision & ethical choice.
- **Other Related Initiatives Taken:**
 - **NOTA (None of the Above) Option:**
 - By choosing NOTA, voters have the right to not to choose any nominated candidate.
 - **Voter Verified Paper Audit Trail:**
 - It is an independent verification printer machine and is attached to electronic voting machines. It allows voters to verify if their vote has gone to the intended candidate.
 - **National Voters' Day:**
 - It has been celebrated on **25th January** every year since 2011 to mark the formation of ECI.
 - **Decriminalization of Elections:**
 - ECI and the Court have ensured together that the candidates declare their criminal record and any cases, pending or not.
 - **cVIGIL App:**
 - This app provides time-stamped, evidence-based proof of the **Model Code of Conduct / Expenditure Violation**, having live photo/video with auto location data.

Note:



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Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)

Why in News

Under the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)** approximately 20.32 lakh **Covid-19** tests and **7.08 lakh treatments** were authorised from April 2020 to July 2021.

Key Points

➤ About:

- 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).
- **Under PMJAY, cashless and paperless access to services** are provided to the beneficiaries at the point of service.
- **Health Benefit Packages** covers surgery, medical and day care treatments, cost of medicines and diagnostics.
 - **Packaged rates** (Rates that include everything so that each product or service is not charged for separately).
 - They are **flexible**, but they **can't charge the beneficiary once fixed by the hospitals**.
 - The scheme also has **prescribed a daily limit for medical management**.

➤ Beneficiaries:

- It is an **entitlement-based scheme** that targets the beneficiaries as identified by latest **Socio-Economic Caste Census (SECC) data**.
 - Once identified by the database, the beneficiary is considered insured and can walk into any empanelled hospital.

➤ Funding:

- The funding for the scheme is shared – **60:40 for all states and UTs with their own legislature**, **90:10** in Northeast states and Jammu and Kashmir, Himachal and Uttarakhand and **100% Central funding for UTs without legislature**.

➤ Nodal Agency:

- The **National Health Authority (NHA)** has been constituted as an autonomous entity under the **Society Registration Act, 1860** for **effective implementation of PM-JAY** in alliance with state governments.
- The **State Health Agency (SHA)** is the **apex body of the State Government** responsible for the **implementation of AB PM-JAY in the State**.

➤ Challenges:

○ Cooperation of States:

- Since **health is a State subject** and **States are expected to contribute 40%** funding for the scheme, it will be **critical to streamline and harmonise the existing State health insurance schemes to PMJAY**.
 - **West Bengal, Telangana, Odisha and Delhi** have not implemented PMJAY.

○ Burden of Costs:

- **Costs are a contested area** between the care-providers and the Centre, and many for-profit hospitals see the government's proposals as unviable.

○ Inadequate Health Capacities:

- The **ill-equipped public sector health capacities** calls for necessary **partnerships and coalitions with private sector providers**.
- In such circumstances, the provision of services can be ensured only if the providers are held accountable for their services.

○ Unnecessary Treatment:

- The National Health Policy 2017 proposed **"strategic purchasing" of services from secondary and tertiary hospitals for a fee**.
- The contracts with the healthcare providers who will receive the financial compensation package should **clearly spell out the strict following of notified guidelines and standard treatment protocols** in order to keep a check on potential for unnecessary treatment.

➤ Achievements:

○ Beneficial for Poor:

- In around the **first 200 days of implementation**, PM-JAY has benefitted more than **20.8 lakh poor and deprived people** who received free treatment worth more than Rs. 5,000 crores.

Note:

- **During Covid-19:**
 - A **key design feature of PM-JAY** from the beginning of the scheme is **portability**, which **helps to ensure that a PM-JAY-eligible migrant worker** can access the **scheme's services in any empanelled hospital across the country**, irrespective of their state of residence.

National Commission for Minorities

Why in News

Recently, the Delhi High Court directed the Centre to nominate persons to all the vacant positions in the National Commission for Minorities (NCM) by 30th September, 2021.

- This is to ensure that the commission functions efficiently and the purpose of the commission as envisaged under the National Commission for Minorities Act (NCM), 1992 is also fully given effect to.

Key Points

- **Background:**
 - In **1978**, setting up of the Minorities Commission (MC) was envisaged in the Ministry of Home Affairs Resolution.
 - In **1984**, the MC was detached from the Ministry of Home Affairs and placed under the newly created Ministry of Welfare, which excluded linguistic minorities from the Commission's jurisdiction in 1988.
 - In **1992**, with the enactment of the **NCM Act, 1992**, the MC became a **statutory body** and was renamed as the NCM.
 - In **1993**, the first Statutory National Commission was set up and five religious communities viz. The Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities.
 - In **2014**, Jains were also notified as a minority community.
- **Composition:**
 - NCM consists of a **Chairperson, a Vice-Chairperson and five members** and all of them shall be from amongst the minority communities.
 - Total of **7 persons to be nominated by the Central Government** should be from amongst persons of eminence, ability and integrity.

- **Tenure:** Each Member holds office for a **period of three years** from the date of assumption of office.
- **Functions:**
 - **Monitoring of the working of the safeguards for minorities** provided in the Constitution and in laws enacted by Parliament and the state legislatures.
 - Ensures that the **Prime Minister's 15-Point Programme for the Welfare of Minorities is implemented** and the programmes for minority communities are actually functioning.
 - **Making recommendations** for the effective implementation of safeguards for the protection of the interests of minorities by the central or state governments.
 - **Looking into specific complaints** regarding deprivation of rights and safeguards of minorities and taking up such matters with the appropriate authorities.
 - **Investigates matters of communal conflict** and riots.
 - For example, the 2011 Bharatpur communal riots, as well as the 2012 Bodo-Muslim clashes in Assam, were investigated by the commission and their findings were submitted to the government.
 - Observes the **Minorities Rights Day** every year on **18th December** which marks the adoption of the "**Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities**" by the **United Nations** in 1992.

Constitutional and Legal Provisions Related to Minorities

- The NCM Act defines a minority as "**a community notified as such by the Central government.**"
 - The Government of India has declared six religions namely, **Muslims, Christians, Sikhs, Buddhists and Parsis (Zoroastrian)** and Jain as religious minorities in India.
- **National Commission for Minority Education Institution (NCMEI) Act, 2004:**
 - It gives minority status to the educational institutions on the basis of six religious communities notified by the government.
- The term "**minority**" is **not defined in the Indian Constitution**. However, the Constitution recognises religious and linguistic minorities.
- **Article 15 and 16:**

Note:

- **Prohibition of discrimination** against citizens on grounds of religion, race, caste, sex or place of birth.
- Citizens' **right to 'equality of opportunity'** in matters relating to employment or appointment to any office under the State, and prohibition in this regard of any discrimination on grounds of religion, race, caste, sex or place of birth.
- **Article 25 (1), 26 and 28:**
 - People's freedom of conscience and right to **freely profess, practise and propagate religion**.
 - Right of every religious denomination or any section to establish and maintain **institutions for religious and charitable purposes, manage its own religious affairs**, and own and acquire property and administer it.
 - People's freedom as to attendance **at religious instruction or religious worship in educational institutions** wholly maintained, recognized, or aided by the State.
- **Article 29:**
 - It provides that any **section of the citizens residing in any part of India having a distinct language, script or culture of its own**, shall have the right to conserve the same.
 - It grants **protection to both religious minorities as well as linguistic minorities**.
 - However, the **Supreme Court** held that the scope of this article is not necessarily restricted to minorities only, as use of the word '**section of citizens**' in the Article includes minorities as well as the majority.
- **Article 30:**
 - All minorities shall **have the right to establish and administer educational institutions** of their choice.
 - The protection under **Article 30 is confined only to minorities** (religious or linguistic) and does not extend to any section of citizens (as under Article 29).
- **Article 350-B:**
 - The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a **Special Officer for Linguistic Minorities appointed by the President of India**.
 - It would be the duty of the **Special Officer to investigate all matters relating to the safeguards** provided for linguistic minorities under the Constitution.

Van Dhan Producer Companies

Why in News

The **Ministry of Tribal Affairs** has planned to **set up 200 'Van Dhan' producer companies** in all the 27 states in the next five years with priority to the **Aspirational Districts** under the **Van Dhan programme**.

- Aspirational Districts are those districts in India that are **affected by poor socio-economic indicators**. The **Transformation of Aspirational Districts' Programme (TADP)** is being **anchored by the NITI Aayog** at the central level.

Key Points

- **Van Dhan Programme:**
 - **About:** It is a **market-linked tribal entrepreneurship development program** for forming clusters of tribal **Self Help Groups (SHGs)** and strengthening them into **Tribal Producer Companies**.
 - The initiative targets **livelihood generation** for tribals by harnessing the wealth of forest i.e. **Van Dhan**.
 - **Launch:** The scheme was launched in 2018 as **Pradhan Mantri Van Dhan Yojana (PMVDY)**.
 - **Implementation:** It is being implemented by the **Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)**.
 - **Aims:**
 - To tap into **traditional knowledge & skill sets of tribals** by adding technology & IT to upgrade it at each stage and to convert the tribal wisdom into a viable economic activity.
 - To promote and leverage the **collective strength of tribals** to achieve a viable scale to take on the predatory market forces in the areas where these are still prevalent.
 - Proposition is to set-up tribal community-owned **Minor Forest Produce (MFP)-centric** multi-purpose **Van Dhan Vikas Kendras** in predominantly tribal districts.

Jan Shikshan Sansthan

Why in News

Recently, the **Jan Shikshan Sansthan (JSS)** has brought

Note:



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high-speed internet to some of the remotest tribal hamlets deep inside the Nilambur jungle in Kerala.

Key Points

- **About:**
 - The Scheme of JSS formerly known as **Shramik Vidyapeeth** was a unique creation of the Government of India and has been implemented through **Non-governmental Organizations (NGOs)** in the country since 1967.
 - The scheme was **renamed as JSS in 2000**.
 - It was **transferred from the Ministry of Education** (erstwhile Ministry of Human Resource Development) **to the Ministry of Skill Development & Entrepreneurship in July, 2018**.
 - The JSSs are **imparting vocational skill training programmes at the door step** of the beneficiaries with a minimum cost and infrastructure.
 - JSSs are unique in the sense that they do not provide only vocational skills but **also include an element of life skills which can help the beneficiary in day to day life**.
 - They are not working in isolation but also conduct **convergence programmes with different departments**.
 - At present, **233 JSSs in 25 States and 3 Union Territories are functional**.
 - The **annual coverage of the beneficiaries is around 4 lakh**, out of which **85% are women**.
- **Implementation:**
 - It is implemented through NGOs with **100% grants from the Government of India**. JSSs are registered under the **Societies Registration Act, 1860**.
 - The affairs of Jan Shikshan Sansthan are managed by the **respective Board of Management approved by the Government of India**.

Reservation Applicable in Either of States after Division: SC

Why in News

Recently, the **Supreme Court (SC)** has ruled that a **person belonging to a reserved category in an undivided**

state is entitled to claim benefit of reservation in either of the successor States.

- The ruling came after a resident (**Scheduled Caste**) of Jharkhand, filed an **appeal against the High Court order denying him appointment** in state civil service examination of 2007 on the ground that his address proof showed that he was a permanent resident of Patna, Bihar.
- Under the **Bihar Reorganisation Act, 2000** passed by the parliament a new state, Jharkhand was created from a portion of Bihar.
 - **Article 3** empowers the Parliament to make law relating to the formation of new states and alteration of existing states.

Key Points

- **Reservation:**
 - The SC has ruled that a **person belonging to a reserved category is entitled to claim benefit of reservation in either of the successor States** of Bihar or Jharkhand.
 - However he/she **cannot claim benefit of the quota simultaneously in both the successor States** upon their reorganisation in November, 2000. As it will defeat the mandate of Articles 341(1) and 342(1) of the Constitution.
 - **Article 341:** The President may with respect to any State or Union territory, and where it is a State after consultation with the Governor thereof, by public notification, **specify the castes, races or tribes or parts of or groups within castes, races or tribes** which shall for the purposes of this Constitution be **deemed to be Scheduled Castes in relation to that State or Union territory**, as the case may be.
 - **Article 342:** The President may with respect to any State or Union territory, and where it is a State, after consultation with the Governor thereof, by public notification, **specify the tribes or tribal communities or parts of or groups within tribes or tribal communities** which shall for the purposes of this Constitution be deemed to be **Scheduled Tribes(ST)** in relation to that **State or Union territory**, as the case may be.
- **Other State Migrants:**
 - Members of the reserved category, who are **residents of the successor State of Bihar**, while

Note:



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participating in open selection in Jharkhand shall be treated to be migrants and they can participate in the general category without claiming the benefit of reservation and vice-versa.

Community Policing

Why in News

Recently, the Delhi Police Commissioner inaugurated a **Community Policing Programme 'Ummeed'**.

Key Points

➤ About:

- The Basic Principle Underlying Community Policing is that **'A Policeman is a Citizen with Uniform and a Citizen is a Policeman without Uniform'**.
 - The essence of Community Policing is to **minimize the gap between policemen and citizens** to such an extent that the policemen become an integrated part of the community they serve.
- It is defined as a **law enforcement philosophy that allows police to continuously operate in the same area** in order to create a stronger bond with the citizens living and working in that area.
- It **helps in reducing the trust deficit between police and public** as it requires the police to work with the community for prevention and detection of crime, maintenance of public order, and resolving local conflicts, with the objective of providing a better quality of life and sense of security.

➤ Benefits:

- ☐ No government funds are required
- ☐ Enhances immunity against crime and disorder
- ☐ Assists traditional policing
- ☐ Bridges the gap of trust
- ☐ Encourages social interactions
- ☐ Police and public share credit and discredit
- ☐ Police officer feels safe in his area of responsibility
- ☐ Reliable and workable information is available
- ☐ Inculcates sense of responsibility in the public
- ☐ Police and the public are accountable to each other
- ☐ Promotes democratic values in the society

➤ Challenges:

- **Poor public image of the police force.**
- **Poor customer service** procedures within the police force.
- It might lead to **vigilantism and mob justice.**

- Belief by the residents that **crime is a source of livelihood for some people.**

➤ Other Examples:

- **Janamaithri Suraksha Project:** Kerala
- **Joint Patrolling Committees:** Rajasthan
- **Meira Paibi:** Manipur
- **Community Policing Project:** West Bengal
- **Maithri:** Andhra Pradesh
- **Mohalla Committees:** Maharashtra
- **Friends of Police:** Tamil Nadu

Moral Policing

Why in News

Recently, five teenagers were arrested by the police in connection to an attack on a 23-year-old man in Kerala. This attack is one of the **growing examples of moral policing** in India.

Key Points

- **Definition:** Moral Policing in its broadest sense could mean **a system where a strict vigil and restriction is imposed on those who violate the basic standards of our society.**

- The basic standard of our society could be found in its cultures, age-old customs and religious doctrines.
- It is a situation where the moral character of an individual is questioned by those who advocate this phenomenon.

➤ Manifestations of Moral Policing:

- **Mob Lynching:** **Lynching**, a form of violence in which a mob, under the pretext of **administering justice without trial**, executes a presumed offender, often after inflicting torture and corporal mutilation.
- **Cow Vigilantism:** Cow vigilantism or lynching in the name of **Cow Protection** poses a serious threat to the **secular fabric of the nation.**
 - Killing of people just on the suspicion of beef depicts the intolerance among the vigilantes.
- **Cultural terrorism:** Various extra constitutional actors like **Anti Romeo Squads** imposes their subjective belief through use of physical violence.
- **Honor Killing:** Honor killings are one of the extreme cases of moral policing which supposedly curtail western influences by encroaching on Individual freedom.

Note:

- **Affecting Fundamental Rights:** There are many times when moral policing hinders the basic fundamental rights of the citizen enshrined in the constitution such as the **right to freedom of speech & expression, right to privacy, right to live with dignity etc.**

- For example, due to moral policing, the LGBT community faces extreme consequences and their basic right to life and liberty has been threatened.

➤ **Factors Promoting Moral Policing:**

- **Religious Values:** In a Hindu religion, cows are worshipped and they are seen as a symbol of life and thus they are revered and worshipped.
 - This sometimes leads to Cow vigilantism, which is perpetrated by the majority towards the minority on the presumption that the minorities are in regular consumption of bovine meat.
- **Social Networking Platform:** Platforms like Whatsapp' and Facebook act as a **catalyst towards moral policing**, as it can amplify the spread of **fake news**.
 - Fake news can lead to events like Lynching, Communal clashes, etc.
- **Patriarchy:** People with a patriarchal mindset views the security of women as their duty, for they are perceived as weaker sex and gullible.
 - Due to this, they would impose restrictions on women in terms of speech, attitude, clothing, public behaviour etc.
- **Overreach by Police:** Police is a public organisation that is **given extraordinary powers to use force**. This leaves Police sometimes overreaching their powers. For example:
 - Section 292 of the **Indian Penal Code (IPC)** criminalized materials like books and paintings if it is deemed to be obscene. However, the term **obscenity has not been defined**.
 - However, the police personnel use Section 292 to file cases against film posters and advertisement hoardings that are deemed to be obscene. This **undermines artistic creativity and curtails the artists' freedom of expression**.
 - The **Immoral traffic (prevention) act (PITA)** was originally passed to prevent **human trafficking**.

- However, it has been used by police to raid hotels if they suspect a sex racket being run there even without proper evidence, thus embarrassing legal couples and young people.

United Nations World Geospatial Information Congress

Why in News

Recently, it was announced that the **second United Nations World Geospatial Information Congress (UNWGIC)** will be held in **Hyderabad, India, in 2022**. The event would show a glimpse of **India's evolving geospatial ecosystem**.

Key Points

➤ **About UNWGIC:**

- **Organised By:** United Nation Committee of Experts on Global Geospatial Information Management (UN-GGIM)
- **Objective:** To enhance international collaboration among the Member States and relevant stakeholders in Geospatial information management and capacities.
- **Timeframe:** It is conducted **every four years**. The **first UNWGIC was organized by China in October 2018**.
- **Theme of Second UNWGIC:** Geo-enabling the Global Village.

➤ **About UN-GGIM:**

- The UN-GGIM aims at playing a leading role in setting the **agenda for the development of global geospatial information** and to promote its use to address key global challenges.
 - It works towards implementing the 2030 Agenda for **Sustainable Development** and to keep the promise to leave no one behind.
- In 2009, the **United Nations Statistics Division**, convened in New York, an informal consultative meeting with geospatial information experts from different regions of the world.
- In 2010, the United Nations Secretariat was requested to initiate discussion and prepare a report for the approval of the **Economic and**

Note:

Social Council (ECOSOC) on global coordination of geospatial information management, including the consideration of the possible creation of a United Nations Forum on GGIM.

- In **2011**, the ECOSOC forum concluded with the acceptance of the **Seoul Declaration** on Global Geospatial Information Management (GGIM).

➤ **Geospatial Technologies:**

- Geospatial technologies is a term used to describe the range of modern tools contributing to the geographic mapping and analysis of the Earth and human societies.
- These technologies have been evolving in some form since the first maps were drawn in prehistoric times.
- The science and art of photographic interpretation and map making was accelerated during the **Second World War (1939-45)** and during the **Cold War (1945-1989)** it took on new dimensions with the advent of satellites and computers.
- Broadly speaking, it consists of the following technologies:
 - **Remote Sensing:** It is imagery and data collected from space- or airborne camera and sensor platforms.
 - **GIS (Geographic Information System):** A GIS is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface.
 - **GNSS (Global Navigation Satellite System):** It is a general term describing any satellite constellation that provides positioning, navigation, and timing (PNT) services on a global or regional basis.
 - **3D Scanning:** It is the process of analyzing a real-world object or environment to collect data on its shape and possibly its appearance.

➤ **Geospatial Policy of India:**

- The Ministry of Science and Technology has recently **released new guidelines for the Geo-Spatial Sector in India**.
- The news policy **liberalises the sector** to a more competitive field. Following are the objectives of new policy:
 - **Open Access:**
 - Open access to its geospatial data and services, including maps, for all Indian entities,

with the exception of sensitive defence or security-related data.

- It envisages the benefits of geospatial technologies to reach urban as well as rural areas, and make geospatial information accessible to all.
- For example, **SVAMITA scheme** seeks to empower rural population through which a digital certificate of landholding is being given to rural landowners.

● **Restrictions Removed:**

- Indian corporations and innovators are no longer subject to restrictions nor do they require prior approvals before they collect, generate, prepare, disseminate, store, publish, update digital geospatial data and maps within the territory of India.

New Geospatial Planning Portal: Yuktdhara

Why in News

Recently, the **Ministry of Rural development** has launched a **new geospatial planning portal, 'Yuktdhara'** to help in facilitating the new **MGNREGA** (Mahatma Gandhi National Rural Employment Guarantee Act) **assets** with the use of remote sensing and **GIS (Geographic Information System)** based information.

- It is a new portal **under 'Bhuvan'**.

Key Points

➤ **About:**

- It is a culmination of joint efforts of the **Indian Space Research Organisation (ISRO)** and the **Ministry of Rural development** made towards realising a G2G (Government-to-Government) service for rural planning in support of decentralised decision making.
- Previously launched, **ISRO's Geoportal Bhuvan** is presently a **de-facto geospatial platform** for several developmental planning activities across India.
- It will **serve as a repository of assets (geotags) created under the various National Rural Development Programmes**, such as MGNREGA, **Per Drop**

Note:

More Crop Programmes, Integrated Watershed Management Programme, and Rashtriya Krishi Vikas Yojana, along with the field photographs.

- It will integrate a wide variety of thematic layers, **multi-temporal high-resolution earth observation data with the analysis tool**.
- Planners will be able to analyse previous assets under various schemes and facilitate the identification of new works using online tools. Prepared plans will be then evaluated by appropriate authorities under State Departments.

➤ **Bhuvan Portal:**

- It is a type of web portal used to find and access geographic information (geospatial information) and associated geographic services (display, editing, analysis, etc.) via the Internet.
- It shows the true borders of the country as per the information available from the Government of India.
- By using **MapmyIndia** maps and applications instead of the foreign map apps, users can better protect their privacy.
- It is well aligned with the government's Mission of **Atmanirbhar Bharat**.

➤ **Other Rural Development Programmes:**

- **Deen Dayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM)**.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY)**.
- **Pradhan Mantri Awas Yojana – Gramin**.
- **Pradhan Mantri Kisan SAMPADA Yojana**.
- **Gobar Dhan Yojana**.

Census 2021

Why in News

Recently, the Ministry of Home Affairs has said in the Lok Sabha that owing to the outbreak of **Covid-19** pandemic, **Census 2021** and other Census-related field activities have been postponed until further orders.

- In India, a census is conducted every decade and **Census 2021** will be the **16th national census of the country**.

Key Points

- **Background:**

- The earliest literature 'Rig Veda' reveals that some kind of **population count was maintained during 800-600 BC**.
- During the regime of Mughal king Akbar, the administrative report '**Ain-e-Akbari**' included **comprehensive data pertaining to population, industry, wealth and many other characteristics**.
- The first Census was conducted in **India in 1872 (although non-synchronously in different parts) during the reign of Governor-General Lord Mayo**.
- The newly established office of the registrar general and census commissioner launched and completed the first **Census of India in 1881**.
 - With a history of more than 130 years, it has proved to be a reliable exercise that is **conducted every 10 years**.
- The **Census Act, enacted in 1948**, then provided for the **permanent scheme of conducting population Census** with duties and responsibilities of Census Officers.
 - The individual data collected in Census under the Census Act, 1948, are not made public as per the provisions contained in the Act.
 - The individual data are not used for the preparation of any other database, including the **National Register of Citizens (NRC)**. Only the aggregated Census data at various administrative levels are released.

➤ **About:**

- **Census of India** is one of the Many legacies of the colonial raj continued after 1947. The term census is derived from the latin term **from censere, which means to assess**.
- In the Census, data is collected on demographic and various socio-economic parameters like **education, SC/ST (Scheduled Caste/Scheduled Tribe), religion, language, marriage, fertility, Disability, occupation and Migration of the individuals**.
- The forthcoming Census is to be **the first digital Census and there is a provision for self-enumeration**. Census will be **conducted by the Ministry of Home Affairs**.
 - **A mobile application** for data collection and a Census portal for managing and monitoring various Census related activities have been developed.

Note:



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➤ Importance of Census:

○ Comprehensive Source of Data:

- It gathers knowledge about the **Demographic Dividend** of the nation which is vital for many purposes such as health survey, education survey, agriculture survey, etc.

○ Decision-making:

- Census is significant for any country for evidence-based decision making.

○ Policy-making:

- Census is responsible for taking the collected information **from a dwelling unit to the delivery unit**. It will boost coherence policy-making and scientific planning, resulting in optimisation of resources.

○ Demarcation:

- Census data is also used **for the demarcation of constituencies and allocation of representation** to the Parliament, State Legislative Assemblies and local bodies.

○ Grants:

- The **Finance Commission** gives grants to the states on the basis of population figures available from the Census data.

➤ Challenges:

○ Errors:

- There are two types of error during statistical exercise: **Content error, and Coverage error** which needs to be minimised.

○ Furnishing of false information:

- Due to fear of losing intended benefits of **various schemes (or fear of losing citizenship this time) and lack of education, people fabricate and tend to provide false information.**

○ Associated Costs:

- Huge expenditure (thousands of crores) is incurred by the government in conducting this exercise.

○ Security:

- The move towards digital mode of collecting the data is **a step forward to speed up the process of analysis.**
- However, **the security of the data being collected** (especially on the application) and adequate backup mechanism for such data **has to be looked into.**

○ Abuse of Data:

- The availability of data with regional authorities **has the potential for abuse of such data, as the concerned authority has access to everything about a particular family** (ownership, caste, financial aspects, occupation, lifestyle, etc.).

○ Lack of community participation:

- Lack of community participation and inadequate training of enumerators to collect the precise **and accurate data acts as a big challenge** in conducting the Census exercise.

India's Flag Code Rules

Why in News

On 15th August, 2021, India celebrated its 75th Independence Day, and like every year the Prime Minister of India hoisted the National Flag at the Red Fort to commemorate the day.

Key Points

➤ History of Adopting India's Flag:

○ 1906:

- The **first national flag**, which consisted of **three horizontal stripes of red, yellow and green**, is said to have been hoisted on **7th August, 1906**, at the Parsee Bagan Square, near Lower Circular Road, in Calcutta (now Kolkata).

○ 1921:

- Later, in 1921, **freedom fighter Pingali Venkayya** met **Mahatma Gandhi** and proposed a basic design of the flag, consisting of two red and green bands.

○ 1931:

- After undergoing several changes, the **Tricolour was adopted as our national flag** at a **Congress Committee meeting** in Karachi in 1931.

○ 1947:

- The **Indian flag was adopted** in its **present form** during a meeting of the Constituent Assembly held on **22nd July, 1947.**

➤ Rules Governing the Tricolour:

- **The Emblems and Names (Prevention of Improper Use) Act, 1950:**

Note:



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- It **restricts the use of the national flag**, the coat-of-arms used by a government department, the official seal of the President or Governor, the pictorial representation of Mahatma Gandhi and the Prime Minister, and the Ashoka Chakra.
- **The Prevention of Insults to National Honour Act, 1971:**
 - It **prohibits the desecration of or insult to the country's national symbols**, including the national flag, the Constitution, the national anthem and the Indian map.
 - A person who is convicted for the **following offences under the Act is disqualified to contest in the elections to the Parliament and state legislature for 6 years.**
 - Offence of insulting the National Flag,
 - Offence of insulting the Constitution of India,
 - Offence of preventing the singing of the National Anthem.
- **The Flag Code of India, 2002:**
 - It **allowed the unrestricted display of the Tricolour** as long as the honour and dignity of the flag were being respected.
 - The **flag code did not replace the pre-existing rules** governing the correct display of the flag.
 - It was, however, an **effort to bring together all the previous laws, conventions and practices.**
 - It is **divided into three parts** — a general description of the tricolour, rules on display of the flag by public and private bodies and educational institutions, and rules for display of the flag by governments and government bodies.
 - It mentions that the **tricolour cannot be used for commercial purposes**, and cannot be dipped in salute to any person or thing.
 - Moreover, the flag should not be used as a festoon, or for any kind of decoration purposes.
 - For official display, **only flags that conform to the specifications** as laid down by the **Bureau of Indian Standards** and bearing their mark can be used.
- **Part IV-A of the Constitution:**
 - The **Part IV-A of the Constitution (which consists of only one Article 51-A)** specifies the eleven Fundamental Duties.

- According to **Article 51A (a)**, it shall be the duty of every citizen of India to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem.

Initiatives on 75th Independence Day

Why in News

Commemorating the **75th Independence Day**, Prime Minister announced a slew of measures/initiatives and called for **making the next 25 years a glorious one for India.**

- A day before Independence day, the Prime minister also declared **14th August** would now be observed as **Partition Horrors Remembrance Day.**

Key Points

- **Gati Shakti Master Plan:**
 - It is a Rs.100 lakh-crore project for **developing 'holistic infrastructure'.**
 - It will help **raise the global profile of local manufacturers** and help them compete with their counterparts worldwide. It also **raises possibilities of new future economic zones.**
 - It will be a **source of employment** opportunities for the youth in future.
- **National Hydrogen Mission:**
 - The **National Hydrogen Mission** and the **green hydrogen** sector will give India a quantum jump in meeting its climate targets.
 - **Green hydrogen** is produced by splitting water into hydrogen and oxygen using an electrolyzer powered by electricity from renewable energy sources such as wind and solar.
 - It will also **help India to become energy independent.** Today, India spends over Rs 12 lakh crore on importing energy.
- **Rice Fortification Plan:**
 - The rice distributed under various government schemes will be **fortified** by 2024. It includes the **Public Distribution System (PDS)**, **Mid-Day Meals** in schools and **Integrated Child Development Scheme (ICDS).**

Note:



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- It is a significant initiative as the country has high levels of malnutrition among women and children.
 - According to the Ministry of Consumer Affairs, Food and Public Distribution, **every second woman in the country is anaemic** and **every third child is stunted**.
 - India ranks 94 out of 107 countries and is in the 'serious hunger' category on the **Global Hunger Index (GHI)**.
- Six states, including Maharashtra and Gujarat, **have started distributing fortified rice** as part of the pilot scheme.
 - Food fortification or enrichment is the process of **adding micronutrients to food**.
- **Vande Bharat Trains:**
 - 75 **Vande Bharat' trains** will connect different parts of the country in 75 weeks to mark the ongoing 'Azadi ka Amrit Mahotsav'.
 - Vande Bharat, the **indigenous semi-high speed train** set, is being given a boost, with the Railways gearing to roll out at least 10 of them, linking around 40 cities, by August 2022 to commemorate 75 years of Independence.
- **Sainik Schools for Girls:**
 - All Sainik Schools in the country will now be open for girls also. At present, **33 Sainik schools are operating in the country**.
 - Sainik schools are **run by the Sainik Schools Society which is under the administrative control of the Ministry of Defence**.
 - The aim of establishing Sainik schools was **to prepare the students from an early age for their entry into the Indian armed forces**.
- **E-commerce platform for Self-Help Groups:**
 - This digital platform will **connect the products of women Self-Help Groups with people in far flung areas of the country as well as abroad** and it will have far-reaching consequences.
 - The government will create an e-commerce platform to ensure a huge market in the country and abroad for their products.
 - More than eight crore women in the villages are associated with Self-Help Groups and they design top-end products.
- **Partition Horrors Remembrance Day:**
 - **14th August** would now be observed as **Partition Horrors Remembrance Day**.

- This day will remind Indians of the **need to remove the poison of social divisions, disharmony** and further **strengthen the spirit of oneness, social harmony and human empowerment**.

Defence India Start-up Challenge 5.0

Why in News

Recently, the Ministry of Defence launched the 5th edition of the **Defence India Start-up Challenge (DISC)** under **Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO)**.

- Thirty-five problem statements – 13 from the Services and 22 from **Defence Public Sector Undertakings (DPSUs)** – were unveiled under **DISC 5.0**. Some of which are:
 - Situational awareness, augmented reality, **Artificial Intelligence**, aircraft-trainer, non-lethal devices, **5G network**, **Underwater Domain Awareness**, **Drone** SWARMS and data capturing.

Innovation for Defence Ecosystem (iDEX)

➤ About:

- It was **launched in 2018**, as an ecosystem to foster **innovation & technology development in Defence and Aerospace** by engaging innovators & entrepreneurs to deliver technologically advanced solutions for modernizing the Indian Military.
- It provides **funding/grants to MSMEs, start-ups, individual innovators, R&D institutes and academia** to carry out research and development.
- iDEX is funded and managed by "**Defence Innovation Organisation**".

➤ Core Objectives:

- **Indigenization:** Rapid development of **new, indigenized and innovative technology**.
- **Innovation:** Creates a culture of engagement with **innovative startups to encourage co-creation**.

Key Points

➤ About:

- DISC aims at supporting **Startups/MSMEs** (Micro Small and medium Enterprises)/Innovators to **create prototypes and/or commercialize products/solutions in the area of National Defence and Security**.

Note:



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- It is meant to **achieve self-reliance and foster innovation and technology** development in the defence and aerospace sectors.
- It was launched by the Ministry of Defence in partnership with **Atal Innovation Mission**.
- Under the program, **the start-ups, Indian companies and individual innovators** (including research & academic institutions) can participate.
- **DISC 5.0** will be a **massive leap towards leveraging the startup ecosystem** to develop India's defence technologies, equipment design and manufacturing capabilities.
- **Vision:**
 - **Prototyping:** Help **create functional prototypes** of products/technologies relevant for national security, and spur fast-moving innovation in the Indian defence sector.
 - **Commercialization:** Help new tech products/technologies **find a market and early customer in the form of the Indian Defence Establishment**.
- **Significance:**
 - It forms a link between **youth, academia, R&D, start-ups and the armed forces**.
 - These challenges **will also encourage startups to become more attuned to innovative concepts and inculcate the approach of creative thinking** in India's budding entrepreneurs.

PM-KUSUM and Rooftop Solar Programme Phase-II

Why in News

Recently, the **Ministry of New and Renewable (MNRE)** has conducted a review of implementation of **Prime Minister's Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM-KUSUM) scheme (PM-KUSUM)** and **Rooftop Solar Programme Phase-II** and suggested measures for expansion of the schemes.

Key Points

- **About PM-KUSUM:**
 - The PM-KUSUM scheme was launched by the MNRE in 2019, **to support installation of off-grid solar pumps in rural areas** and reduce dependence on grid, in grid-connected areas.

- The objective of the scheme is to **enable farmers to set up solar power generation capacity on their barren lands and to sell it to the grid**.
- The government's **Budget for 2020-21** expanded the scope for the scheme with **20 lakh farmers** to be provided assistance to install standalone solar pumps; another 15 lakh farmers to be given help to solarise their grid-connected pump sets.
- **Intended Benefits of the PM- KUSUM Scheme:**
 - **Helping Farmers:**
 - It **ensures water-security** to farmers by providing a day-time reliable source of power for irrigation activities.
 - It also incentivises the farmers **to sell surplus solar energy to the states**, which in turn will augment their income.
 - **Helping Environment:**
 - If farmers are able to sell surplus power, they will be incentivised to save power and, in turn, it will mean the **reasonable and efficient use of groundwater**.
 - Also, expansion of the irrigation cover by providing decentralized solar-based irrigation and **moving away from polluting diesel**.
 - **Helping Discoms:**
 - As farmers will be less dependent on subsidized electricity, the PM KUSUM scheme will support the financial health of electricity distribution companies (discoms) by reducing the burden of subsidy to the agriculture sector.
 - Help them meet the **RPO (Renewable Purchase Obligation) targets**.
 - **Helping States:**
 - **Promotes decentralised solar power production**, and reduces transmission losses.
 - A potential way to reduce their subsidy outlay towards irrigation.
- **About Rooftop Solar Programme Phase II:**
 - The **aim** is to achieve a **cumulative capacity of 40,000 MW from Rooftop Solar Projects by the year 2022**.
 - In a grid-connected rooftop or small Solar Voltaic Panel system, the DC power generated from the Solar Voltaic panel is converted to AC power using the power conditioning unit and is fed to the grid.

Note:



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- This scheme is being **implemented in the states by distribution companies (DISCOMs)**.
- The **MNRE is providing a 40% subsidy** for the first 3 kW and 20% subsidy beyond 3 kW and upto 10 kW of solar panel capacity.
- **Objectives of the Rooftop Solar Programme:**
 - To promote the **grid-connected SPV rooftop** and small SPV power generating plants among the residential, community, institutional, industrial and commercial establishments.
 - To mitigate the **dependence on fossil fuel** based electricity generation and encourage environment-friendly Solar electricity generation.
 - To create **an enabling environment for investment in the solar energy sector** by the private sector, state government and the individuals.
 - To create an enabling environment for the **supply of solar power from rooftop and small plants to the grid**.
 - Therefore, the installation of rooftop solar will **bring down the electricity consumption** of the households and **save electricity expenditure**.

Hindustan-228 Civil Aircraft

Why in News

Recently, **Hindustan Aeronautics Limited (HAL)** carried out a successful ground run and low speed taxi trials of a commercial aircraft "**Hindustan-228**" (Do-228).

- HAL is building civil aircrafts **to promote the UDAN (Ude Desh Ka Aam Nagrik) Scheme**. The central government aims to set up 1,000 new air routes and establish 100 new airports, under the UDAN scheme.



- HAL is a **public sector aircraft manufacturing company**. It has also produced the **Light Combat Aircraft (LCA)** for the Indian Air Force (IAF).

Key Points

- **About Hindustan-228 (Do-228):**

- The 19-seater Do-228 is the **first major attempt in India to develop a small civil transport aircraft** after the 14-seater Saras Aircraft development program at the National Aeronautics Laboratory (NAL) was shelved in 2009 on account of multiple problems in its development.
 - However, the NAL has been pitching **SARAS Mk-2** (19-seater aircraft) for the government's UDAN, since it has the capacity to operate in "ill-equipped", "semi-prepared" and "unpaved airstrips".
- It is **built on the existing frame of the German Dornier 228 defence transport aircraft** used by the defence forces.
- Two civil Do-228 produced by HAL for launch under UDAN scheme have a maximum take off weight of 6200 kgs.
- It is **equipped with a digital cockpit** which will ensure more accurate readings, precise information and required data displays with feedback loops and capability for self-check to alert pilots in emergencies.
- It is conceived to be a **multirole utility aircraft** capable of being used for **VIP transport, passenger transport, air ambulance, flight inspection roles, cloud seeding, recreational activities** like para jumping, aerial surveillance, photography, remote sensing and cargo transport.
- With a maximum cruise speed of 428 kmph and a range of 700 kmph the aircraft is capable of night flying.
- HAL is looking forward to **exporting the aircraft** as well to countries like Nepal.

National Mission on Edible Oil-Oil Palm

Why in News

Recently, the Prime Minister announced a **National Mission on Edible Oil-Oil Palm (NMEO-OP)**, with an investment of over Rs 11,000 crore over a five-year period.

- However, some environmentalists have raised concerns over the **disastrous impact of palm oil plantations**.

Key Points

- **About:**

Note:

- NMEO-OP is a new **Centrally Sponsored Scheme**. It is proposed to have **an additional 6.5 lakh hectares for palm oil by 2025-26**.
- It will **involve raising the area under oil palm cultivation** to 10 lakh hectares by 2025-26 and 16.7 lakh hectares by 2029-30.
- Oil palm farmers will be provided **financial assistance** and will get remuneration under a price and viability formula.
- The Viability Formula is a **Minimum Support Price-type mechanism** and the government will fix this at **14.3 % of Crude Palm Oil (CPO) price**.
 - It will eventually go up to 15.3%.
- Another focus area of the scheme is to substantially **increase the support of inputs/interventions**.
- **Special assistance will be given to replant old gardens** for their rejuvenation.
- **Special Focus:**
 - The special emphasis of the scheme will be **in India's North-Eastern (NE) states and the Andaman and Nicobar Islands** due to the conducive weather conditions in the regions.
 - To attract industry to the NE and Andaman regions, a **provision of Rs 5 crore of 5 mt/hr** (million tonne per hectare) with pro-rata increase for higher capacity will be given.
- **Objective:**
 - To **harness domestic edible oil prices** that are dictated by expensive palm oil imports and **become self-reliant in edible oil**.
 - To **raise the domestic production of palm oil** by three times to 11 lakh MT by 2025-26.
- **Significance of the Scheme:**
 - **Raise Farmers Income:**
 - It is expected to **incentivise production of palm oil to reduce dependence on imports** and help farmers cash in on the huge market.
 - **Rise in Yields & Reduction in Imports:**
 - India is the largest consumer of vegetable oil in the world. Of this, **palm oil imports are almost 55% of its total vegetable oil imports**.
 - It imports the rest, buying palm oil from Indonesia and Malaysia, soyoil from Brazil and Argentina, and sunflower oil, mainly from Russia and Ukraine.
- In India, **94.1% of its palm oil is used in food products**, especially for cooking purposes. This makes palm oil **extremely critical to India's edible oils economy**.
- **Concerns:**
 - **Impact on Tribal Lands:**
 - The oil palm is a **water-guzzling, monoculture crop with a long gestation period** unsuitable for small farmers and the land productivity for palm oil is higher than for oilseeds, which **create apprehension for more land to be given for oil palm cultivation**.
 - In southeast Asia, the plantation of palm oil trees has replaced massive tracts of rainforests.
 - It could also **detach tribespeople from their identity linked with the community ownership of land** and "wreak havoc on the social fabric".
 - **Threat to Wildlife:**
 - Focus areas are "biodiversity hotspots and ecologically fragile" and **oil palm plantations would denude forest cover and destroy the habitat of endangered wildlife**.
 - **Palm is Invasive:**
 - The palm is an **invasive species that is not a natural forest product** of northeastern India and its impact on the biodiversity as well as on soil conditions has to be analysed even if it is grown in non-forest areas.
 - Invasive species are **non-native species that spread and interfere in a new ecosystem by posing a serious threat** to the native biodiversity. They **don't allow local species to grow** and wildlife to move through.
 - **Health Concern:**
 - Oil palm requires 300 litres of water per tree per day, as well as high **Pesticide** use in areas where it is not a native crop, **leading to consumer health concerns as well**.
 - **Farmers not Getting Fair Price:**
 - The most critical issue in the cultivation of oil palm has been the **inability of farmers to realise a remunerative price** of fresh fruit bunches (FFBs).
 - FFBs (Fresh Fruit Bunches) of oil palm are highly perishable and need to be processed within twenty-four hours of harvest.



Note:

Economic Scenario

Highlights

- National Monetisation Pipeline
- Critical Elements of National Monetisation Pipeline
- Crop Insurance
- Seven Years of Pradhan Mantri Jan Dhan Yojana
- Price Determination of Sugarcane
- e-Shram Portal
- EASE 4.0
- Sweat Equity Rules: SEBI
- New Development Bank
- RoDTEP Scheme
- Small Finance Bank
- Ubharte Sitaare Alternative Investment Fund
- Samarth Udyog Bharat 4.0 Platform
- Global Manufacturing Risk Index
- 4-Tier Structure for Urban Cooperative Banks
- G-sec Acquisition Programme 2.0
- Defence Testing Infrastructure Scheme
- Financial Inclusion Index
- Hunar Haats
- TAPAS Initiative
- SAMRIDH Programme

National Monetisation Pipeline

Why in News

Recently, the government of India has launched the **National Monetisation Pipeline (NMP)**. The NMP estimates aggregate monetisation potential of Rs 6 lakh crores through core assets of the Central Government, over a four-year period, from FY 2022 to FY 2025.

- The plan is in line with **Prime Minister's strategic divestment policy**, under which the government will retain presence in only a few identified areas with the rest tapping the private sector.

Key Points

- **About the NMP:**
 - It aims to unlock value in brownfield projects by engaging the private sector, transferring to them



Monetization of 'Rights' NOT 'ownership', Assets handed back at the end of transaction life



Brownfield de-risked assets, stable revenue streams



Structured partnerships under defined contractual frameworks with strict KPIs & performance standards

revenue rights and not ownership in the projects, and using the funds generated for infrastructure creation across the country.

- The NMP has been announced to provide a **clear framework for monetisation** and give potential investors a ready list of assets to generate investment interest.
- **Union Budget 2021-22** has identified monetisation of operating public infrastructure assets as a key means for sustainable infrastructure financing.
- Currently, **only assets of central government line ministries and Central Public Sector Enterprises (CPSEs) in infrastructure sectors** have been included.
- The government has stressed that these are brownfield assets, which **have been "de-risked" from execution risks**, and therefore should encourage private investment.
- **Roads, railways and power sector assets will comprise over 66% of the total estimated value of the assets to be monetised**, with the remaining upcoming sectors including telecom, mining, aviation, ports, natural gas and petroleum product pipelines, warehouses and stadiums.
- In terms of annual phasing by value, 15% of assets with an indicative value of Rs 0.88 lakh crore are envisaged for rollout in the current financial year.

Note:



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- The NMP will run co-terminus with the Rs 100 lakh crore **National Infrastructure Pipeline (NIP)** announced in December 2019.
 - The estimated amount to be raised through monetisation is around 14% of the proposed outlay for the Centre of Rs 43 lakh crore under NIP.
 - NIP will enable a forward outlook on infrastructure projects which will create jobs, improve ease of living, and provide equitable access to infrastructure for all, thereby making growth more inclusive. NIP includes economic and social infrastructure projects.
 - Other Initiatives for Infrastructure Development include **Scheme of Financial Assistance to States for Capital Expenditure, Industrial corridors**, etc.

Monetisation

- In a monetisation transaction, the government is basically **transferring revenue rights to private parties for a specified transaction period** in return for upfront money, a revenue share, and commitment of investments in the assets.
- **Real Estate Investment Trusts (Reits)** and **Infrastructure Investment Trusts (Invits)**, for instance, are the key structures used to monetise assets in the roads and power sectors.
 - These are also listed on stock exchanges, providing investors liquidity through secondary markets as well.
- While these are a structured financing vehicle, other monetisation models on **PPP (Public Private Partnership)** basis include:
 - Operate Maintain Transfer (OMT),
 - Toll Operate Transfer (TOT), and
 - Operations, Maintenance & Development (OMD).

Greenfield vs Brownfield Investment

- **Greenfield Project:**
 - It refers to investment in a manufacturing, office, or other physical company-related structure or group of structures in an area where no previous facilities exist.
- **Brownfield investment:**
 - The projects which are modified or upgraded are called brownfield projects.
 - The term is used for purchasing or leasing existing production facilities to launch a new production activity.

Associated Challenges:

- **Lack of identifiable revenue streams** in various assets.
- The **slow pace of privatisation in government companies** including Air India and BPCL.
 - Further, less-than-encouraging bids in the recently launched PPP initiative in trains indicate that attracting private investors' interest is not that easy.
- **Asset-specific Challenges:**
 - Low Level of capacity utilisation in gas and petroleum pipeline networks.
 - Regulated tariffs in power sector assets.
 - Low interest among investors in national highways below four lanes.
 - Konkan Railway, for instance, has multiple stakeholders, including state governments, which own stake in the entity.

Critical Elements of National Monetisation Pipeline

Why in News

Recently, the **NITI Aayog** has recommended bringing in policy and regulatory changes to scale up monetisation instruments like **Infrastructure Investment Trusts (InvITs)** and **Real Estate Investment Trusts (REITs)** as a **critical element** for success of the **National Monetisation Pipeline (NMP)**.

Key Points

- **Highlights of the NITI Aayog Recommendations:**
 - **Bringing InvITs Under Insolvency and Bankruptcy Code (IBC):** While InvITs structures have been used in India since 2014, such Trusts are not considered a 'legal person'.
 - Therefore, the IBC regulations are not applicable for InvIT loans. The lenders do not have an existing process for recourse to project assets.
 - However, lenders are protected under the **Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act)** and the **Recovery of Debts and Bankruptcy Act, 1993**.

Note:



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Money matters

A look at the NITI Aayog prescription for the National Monetisation Pipeline

■ Expansion of investor base and scale of monetisation instruments such as Infrastructure Investment Trusts (InvITs) and Real Estate Investment Trusts (REITs) is "a key imperative"

■ Tax-efficient and user-friendly mechanisms needed to attract investors

■ Tax breaks should be granted on capital gains for those investing in InvITs, to entice retail investors

■ InvITs should be included under the Insolvency and Bankruptcy Code

■ Providing an insolvency option will give "added comfort" to investors

■ GAIL, NHAI, expected to unroll InvITs to monetise gas pipeline, highway assets soon



- Thus, extending IBC provisions to InvITs would help lenders access a faster and more effective debt restructuring and resolution option.

- **Tax Breaks:** Tax-efficient and user-friendly mechanisms like allowing tax benefits in InvITs as eligible security to invest under **Section 54EC of the Income-Tax Act, 1961**, would attract retail investors (individual/non-professional investors).

- Though this will entail a cost in the form of loss of revenue for the exchequer, the long-term benefits may outweigh the cost as linking investments in specified bonds with the **capital gains** exemption had proved to be a success in the past.

- Section 54EC of the Income-Tax Act, 1961, allows taxpayers to offset long-term capital gains from transactions in immovable properties through investments in bonds issued by some government-backed infrastructure firms.

- This applies to bonds issued by the National Highway Authority of India, Rural Electrification Corporation, Power Finance Corporation and the Indian Railway Finance Corporation.

➤ About Infrastructure Investment Trusts:

- They are instruments that work like **mutual funds**.
- They are **designed to pool small sums of money from a number of investors to invest in assets that give cash flow over a period of time**. Part of this cash flow would be **distributed as a dividend** back to investors.

- The minimum investment amount in an InvIT **Initial Public Offering** (IPO) is Rs **10 lakh**, therefore, InvITs are suitable for high networth individuals, institutional and non-institutional investors.

- InvITs are listed on exchanges just like stocks — through IPOs.

- InvITs are regulated by the **Securities and Exchange Board of India** (SEBI) (Infrastructure Investment Trusts) Regulations, 2014.

- InvITs are structured so as to **give investors an opportunity to invest in infrastructure assets with predictable cash flows**, while the **asset owners can raise upfront resources against future revenue cash flows** from those assets, which in turn can be deployed in new assets or used to repay debt.

➤ About Real estate Investment Trust:

- REITs are **similar to InvITs**, with a difference that these securities are linked to **real estate**.
- The structure of REITs is similar to that of a mutual fund. However, unlike mutual funds, where the underlying asset is bonds, stocks and gold, REITs invest in **physical real estate**.
- The money collected is deployed in income-generating real estate.
- This income gets distributed among the unit holders.
- Besides regular income from rents and leases, gains from capital appreciation of real estate also form an income for the unit holders.

Crop Insurance

Why in News

The **domestic general insurance companies** are **gradually reducing their exposure to the Pradhan Mantri Fasal Bima Yojana (PMFBY)** to cut down their losses on account of high claims even as the Centre made the scheme optional and slashed its contribution.

- **PMFBY** and the **Restructured Weather Based Crop Insurance Scheme (RWBCIS)** were revamped in 2020.

Key Points

- **About the Pradhan Mantri Fasal Bima Yojana (PMFBY):**

Note:

- **Launched in 2016** and is being **administered by the Ministry of Agriculture and Farmers Welfare**.
 - **Replaced** the National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).
- **Aim:** To provide a comprehensive insurance cover against the failure of the crop thus helping in stabilising the income of the farmers.
- **Scope:** All food & oilseed crops and annual commercial/horticultural crops for which past yield data is available.
- **Premium:** The prescribed premium is 2% to be paid by farmers for all Kharif crops and 1.5% for all rabi crops. In the case of annual commercial and horticultural crops, the premium is 5%.
 - Premium cost over and above the farmer share was equally subsidized by States and GoI.
 - However, GoI shared 90% of the premium subsidy for North Eastern States to promote the uptake in the region.
- **Implementation:** By empanelled general insurance companies. The selection of the Implementing Agency (IA) is done by the concerned State Government through bidding.
- **PMFBY 2.0:** The revamped PMFBY is often called **PMFBY 2.0**, it has the following features:
 - **Completely Voluntary:** Enrolment 100% voluntary for all farmers from 2020 Kharif.
 - Earlier, it was compulsory for loanee farmers availing Crop Loan/Kisan Credit Card (KCC) account for notified crops.
 - **Limit to Central Subsidy:** The Centre has decided to limit the PMFBY premium rates - against which it would bear 50% of the subsidy - to a maximum of 30% in un-irrigated and 25% in irrigated areas.
 - **More Flexibility to States:** The government has given the flexibility to states/UTs to implement PMFBY and given them the option to select any number of additional risk covers/features.
 - **Investing in ICE Activities:** Insurance companies have to now spend 0.5% of the total premium collected on information, education and communication (IEC) activities.

➤ **Restructured Weather Based Crop Insurance Scheme:**

- **Launched in 2016** and is being **administered by the Ministry of Agriculture and Farmers Welfare**.
- **Aim:** To mitigate the hardship of the insured farmers against the likelihood of financial loss on account of anticipated crop loss resulting from adverse weather conditions relating to rainfall, temperature, wind, humidity etc.
- **Parameter:** WBCIS uses weather parameters as "proxy" for crop yields in compensating the cultivators for deemed crop losses.

Challenges in Implementation

- **Sustainability:** For Insurance markets to work they need- (a) Low risk; and (b) Low correlation in risk amongst those buying insurance.
 - Since the programme is aimed at covering risks of drought and floods, both assumptions are likely to be false.
 - This is because when bad weather hits, all regional farmers are affected (high correlation) and incidence of bad-weather is high (once in 5-7 years ie. loss probability of 14% - 20%).
 - The PMFBY states the premium rates to be 1.5-2% as the rest being subsidized by the government. This in the long term is bad and also encourages risk-taking especially for crops with low MSPs.
- **Claim Settlement Issues:** The role and power of Insurance companies is significant. In many cases, it didn't investigate losses due to a localised calamity and, therefore, did not pay the claims.
 - The State governments failed to release funds on time leading to delays in releasing insurance compensation. This defeats the very purpose of the scheme which is to provide timely financial assistance to the farming community.
- **Lack of Awareness and Grievance Redressal:** The farmers are not aware of the crop insurance schemes. There is a lack of a decent grievance redressal system and monitoring mechanism for speedy settlements of farmer complaints; at both the Centre and State Governments level.
- **Identification Issues:** Currently the PMFBY scheme doesn't distinguish between large and small farmers and thus raises the issue of identification. Small farmers are the most vulnerable class.

Note:

Seven Years of Pradhan Mantri Jan Dhan Yojana

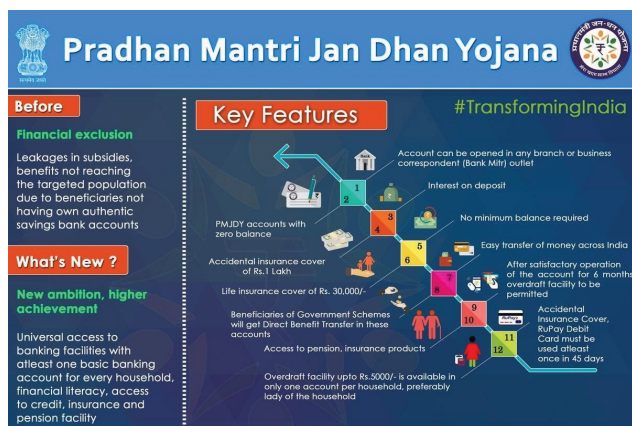
Why in News

Recently, the government has asked the banks to improve access of account holders in the **Pradhan Mantri Jan Dhan Yojana (PMJDY)** scheme to micro-credit and micro investment products, like flexi-recurring schemes.

- PMJDY - National Mission for **Financial Inclusion** has completed seven years of successful implementation.

Key Points

- **Objective of PMJDY:**
 - Ensuring access to various financial services to the excluded sections i.e. weaker sections & low income groups at an affordable cost and using the technology for the same.
- **Six Pillars of the Scheme:**
 - **Universal Access to Banking Services** – Branch and Banking Correspondents.
 - Accounts opened are **online accounts in the core banking system** of banks.
 - Focus has shifted from 'Every Household' to **Every Unbanked Adult**.
 - **Basic Savings Bank Accounts with OverDraft (OD) Facility** of Rs. 10,000/- to every household.
 - **Financial Literacy Program**– Promoting savings, use of ATMs, using basic mobile phones for banking, etc.
 - Interoperability through **RuPay** debit card or **Aadhaar** enabled Payment System (AePS).
 - **Creation of Credit Guarantee Fund** – To provide banks some guarantee against defaults.



- **Insurance** – Free accidental insurance cover on RuPay cards increased from Rs. 1 lakh to Rs. 2 lakh for PMJDY accounts opened after August 2018.
- **Pension Scheme** for the Unorganized sector.
- **Achievements:**
 - **Accounts:**
 - The number of accounts rose to **43.04 crore in August 2021** from 17.9 crore in August 2015.
 - Of this, **55.47%** Jan Dhan account holders are **women** and **66.69%** holders are in **rural and semi-urban areas**.
 - **Deposits:**
 - The deposits have shot up to **Rs. 1.46 lakh crore from Rs. 22,901 crore** during 2015-2021.
 - **Operative Accounts:**
 - As per extant **Reserve Bank of India** guidelines, a PMJDY account is treated as **inoperative** if there are **no customer induced transactions** in the account for over a **period of two years**.
 - In August 2021, out of total 43.04 crore PMJDY accounts, 36.86 crore (85.6%) were operative.
 - Continuous **increase in percentage of operative accounts** is an indication that more and more of these accounts are being used by customers on a regular basis.
 - **RuPay Usage:**
 - Number of RuPay cards & their usage has also **increased over time**.
 - **Jan Dhan Darshak App:**
 - This app is being used for **identifying villages which are not served by banking touchpoints within 5 km**. The efforts have resulted in a significant decrease in the number of such villages.
 - **Pradhan Mantri Garib Kalyan Package (PMGKP) for PMJDY Women:**
 - Under **PMGKP**, a total of Rs. 30,945 crore have been credited in accounts of women PMJDY account holders during **Covid lockdown**.
 - **Smooth DBT Transactions:**
 - About 5 crore PMJDY account holders receive **Direct Benefit Transfer (DBT)** from the Government under various schemes.

- **Impact:**

Note:

○ Increased Financial Inclusion:

- PMJDY has been the foundation stone for **people-centric economic initiatives**. Whether it is DBT, **Covid-19** financial assistance, **PM-KISAN**, increased wages under **MGNREGA**, life and health insurance cover, the first step of all these initiatives is to provide every adult with a bank account, which PMJDY has nearly completed.

○ Formalisation of Financial System:

- It provides an **avenue to the poor for bringing their savings into the formal financial system**, an avenue to remit money to their families in villages besides taking them out of the clutches of the usurious money lenders.

○ Prevention of Leakage:

- DBTs via PM Jan Dhan accounts have **ensured every rupee reaches its intended beneficiary** and prevents systemic leakage.

➤ Challenges:

○ Connectivity:

- Lack of physical and digital connectivity is posing a major hurdle in achieving financial inclusion for rural India.

○ Technological Issue:

- The technological issues affecting banks from poor connectivity, networking and bandwidth problems to managing costs of maintaining infrastructure especially in rural areas.

○ Procedure not Clear:

- Most of the people are aware but still so many are not turned around as they are not understanding the proper procedure of opening an account and required documents at a time.

○ Central Government: Fair and Remunerative Price (FRP)

Sugarcane

- **Temperature:** Between 21-27°C with hot and humid climate.
- **Rainfall:** Around 75-100 cm.
- **Soil Type:** Deep rich loamy soil.
- **Top Sugarcane Producing States:** Uttar Pradesh > Maharashtra > Karnataka > Tamil Nadu > Bihar.
- India is the **second largest producer of sugarcane** after Brazil.
- It can be grown on all varieties of soils ranging from sandy loam to clay loam given these soils should be well drained.
- It needs manual labour from sowing to harvesting.
- It is the main source of **sugar**, gur (jaggery), kandsari and molasses.
- **Scheme for Extending Financial Assistance to Sugar Undertakings (SEFASU)** and **National Policy on Biofuels** are two of the government initiatives to support sugarcane production and the sugar industry.

- The Central Government announces **Fair and Remunerative Prices** which are determined on the recommendation of the **Commission for Agricultural Costs and Prices (CACP)** and announced by the **Cabinet Committee on Economic Affairs (CCEA)**.

- CCEA is chaired by the Prime Minister of India.

- The FRP is based on the **Rangarajan Committee report** on reorganizing the **sugarcane industry**.

○ State Government: State Advised Prices (SAP)

- The SAP are announced by the Governments of key sugarcane producing states.
- SAP is generally higher than FRP.

➤ Comparison Between FRP and MSP:

	Fair and Remunerative Price (FRP)	Minimum Support Price (MSP)
Definition	FRP is the minimum price at which sugarcane is to be purchased by sugar mills from farmers.	MSP is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support". It is also the price that government agencies pay whenever they procure the particular crop.

Price Determination of Sugarcane

Why in News

Recently, the **Cabinet Committee on Economic Affairs** has approved the **hike in the Fair and Remunerative Price (FRP)** of **sugarcane** for sugar season 2021-22.

Key Points

- **Sugarcane Pricing:** Sugarcane prices are determined by:

Note:



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Recommendation	Recommended by the Commission for Agricultural Costs and Prices (CACP)	Recommended by the Commission for Agricultural Costs and Prices (CACP)
Mandated Crops	The mandated crop is sugarcane	<p>The mandated crops include 14 crops of the kharif season, 6 rabi crops and other commercial crops.</p> <ul style="list-style-type: none"> ➤ Cereals (7): Paddy, wheat, barley, jowar, bajra, maize and ragi. ➤ Pulses (5): Gram, arhar/tur, moong, urad and lentil. ➤ Oilseeds (8): Groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesamum, safflower seed and niger seed. ➤ Raw cotton, Raw jute, Copra, De-husked coconut.
Factors Considered	<ul style="list-style-type: none"> ➤ Cost of production of sugarcane; ➤ Return to the growers from alternative crops and the general trend of prices of agricultural commodities; ➤ Availability of sugar to consumers at a fair price; ➤ Price at which sugar produced from sugarcane is sold by sugar producers; 	<ul style="list-style-type: none"> ➤ The supply and demand situation for the commodity. ➤ Market price trends (domestic and global) and parity vis-à-vis other crops. ➤ Implications for consumers (inflation). ➤ Environment (soil and water use). ➤ Terms of trade between agriculture and non-agriculture sectors.
	<ul style="list-style-type: none"> ➤ Recovery of sugar from sugarcane; ➤ The realization made from the sale of by-products viz. molasses, bagasse and press mud or their imputed value; ➤ Reasonable margins for the growers of sugarcane on account of risk and profits 	

Legal Backing	<p>The pricing of sugarcane is governed by the statutory provisions of the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955.</p> <p>MSP is an obligatory, not a statutory exercise. Currently, there is no statutory backing for MSP or any law mandating their implementation.</p>
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Note: The **Commission for Agricultural Costs and Prices (CACP)** is an attached office of the **Ministry of Agriculture and Farmers Welfare**. It is an advisory body whose recommendations are not binding on the Government.

e-Shram Portal

Why in News

Recently, the **Ministry of Labour and Employment** launched the **e-Shram portal**.

Key Points

➤ **About e-Shram Portal:**

- **Aim:** To register **38 crore unorganised workers** such as construction labourers, migrant workforce, street vendors, and domestic workers, among others.
 - The workers will be issued an **e-Shram card** containing a **12 digit unique number**.
 - If a worker is registered on the eSHRAM portal and meets with an accident, he will be **eligible for Rs 2.0 Lakh on death or permanent disability and Rs 1.0 lakh on partial disability**.
- **Background:** The formation of e-Shram portal came after the Supreme Court **directed the Government to complete the registration process of unorganized workers** so that they can avail the welfare benefits given under various government schemes.
- **Implementation:** **Government in States/UTs** will conduct registration of unorganised workers across the country.

➤ **Status of Unorganised Sector in India:**

- The Ministry of Labour and Employment has **categorized the unorganized labour force under four groups**:
 - **Occupation:**
 - Small and marginal farmers, landless agricultural labourers, sharecroppers, fishermen, those engaged in animal husbandry, beedi making, etc.

Note:

- **Nature of Employment:**

- Attached agricultural labourers, bonded labourers, migrant workers, contract and casual labourers come under this category.

- **Specially Distressed Category:**

- Toddy tappers, scavengers, carriers of head loads, drivers of animal driven vehicles, loaders and unloaders.

- **Service Category:**

- Midwives, Domestic workers, Fishermen and women, Barbers, Vegetable and fruit vendors, News paper vendors etc.

- According to the **Periodic Labour Force Survey** (PLFS 2018-19), 90% of workers were in the informal sector, which is 419 million of the 465 million workers.
- Informal workers in rural and urban areas **have been hit the most due to the pandemic**, because of the seasonality of their employment and lack of formal employee-employer relationship.

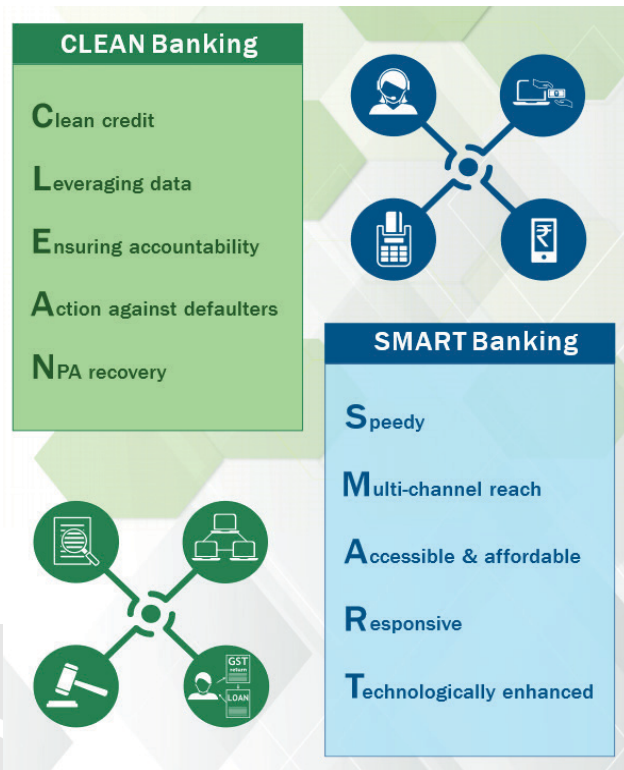
➤ **Initiatives Already Taken to Support Unorganised Sector:**

- **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)**
- **Labour Code**
- **Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)**
- **PM SVANidhi: Micro Credit Scheme for Street Vendors**
- **Atmanirbhar Bharat Abhiyan**
- **Deendayal Antyodaya Yojana National Urban Livelihoods Mission**
- **PM Garib Kalyan Ann Yojana (PMGKAY)**
- **One Nation One Ration Card**
- **Atmanirbhar Bharat Rozgar Yojana**
- **Pradhan Mantri Kisan Samman Nidhi**
- **World Bank Support to India's Informal Working Class**

EASE 4.0

Why in News

Recently, the Union Finance Minister undertook the **annual performance review of the public sector banks (PSBs)** and launched the **EASE 4.0 or Enhanced Access and Service Excellence Reform Agenda**.



- EASE 4.0 is a common reform agenda for PSBs aimed at institutionalising **clean and smart banking**.

Key Points

➤ **About Ease 4.0:**

- EASE 4.0 commits PSBs to **tech-enabled, simplified and collaborative banking** to further the agenda of **customer-centric digital transformation**.
- Following major themes were proposed under this:
 - **24x7 Banking:** Under EASE 4.0, the theme of new-age 24x7 banking with resilient technology has been introduced to ensure uninterrupted availability of banking services.
 - **Focus on North-East:** Banks have also been asked to come up with specific schemes for the North-East.
 - **Bad Bank:** The proposed **bad bank** is very close to getting a licence.
 - A bad bank is a bank set up to buy the bad loans and other illiquid holdings of another financial institution.
 - **Raising Funds Outside the Banking Sector:** With changed times, now industries have the option of raising funds even from outside the banking sector.

Note:

- Banks themselves are raising funds through various avenues.
- These new aspects need to be studied to target credit where it is needed.
- **Leveraging Fintech Sector: Fintech (Financial Technology)**, one such sector that can provide technological help to banks as well as can benefit from help from the banking sector.
- **Export Promotion:** Banks will be urged to work with state governments to push the 'one district, one export' agenda.

EASE 4.0: Key initiatives

Smart Lending Dial-a-loan for doorstep facilitation Credit@click: End-to-end digital retail and MSME lending for New to bank customers Analytics-based credit offers	24*7 banking with resilient technology Deeper penetration of Mobile & Internet banking Cloud-based IT systems and improved cyber resilience Process automation
Data-enabled agricultural financing Dial-a-loan for Agri loans Partnerships with AgriTechs for data exchange Automated processing and sanctioning	Collaborating with financial ecosystem Digital payments in semi-urban and rural areas At scale delivery of doorstep banking services Co-lending with NBFCs

➤ About EASE Agenda:

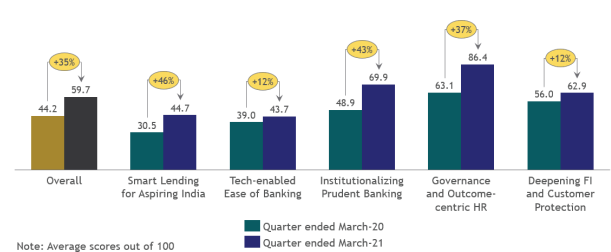
- It was launched in **January 2018** jointly by the government and PSBs.
- It was commissioned through **Indian Banks' Association** and authored by **Boston Consulting Group**.
- **Various Stages under EASE Reforms Agenda:**
 - **EASE 1.0:** The EASE 1.0 report showed significant improvement in PSB performance in resolution of **Non Performing Assets (NPAs)** transparently.
 - **EASE 2.0:** EASE 2.0 was built on the foundation of EASE 1.0 and introduced new reform Action Points across six themes to make reforms journey irreversible, strengthen processes and systems, and drive outcomes. The six themes of EASE 2.0 are:
 - Responsible Banking;
 - Customer Responsiveness;
 - Credit Off-take,
 - PSBs as UdyamiMitra (SIDBI portal for credit management of MSMEs);
 - Financial Inclusion & Digitalisation;
 - Governance and Human Resource (HR).

- **Ease 3.0:** It seeks to enhance ease of banking in all customer experiences, using technology viz.
 - Dial-a-loan and PSB loans in 59 minutes.com.
 - Partnerships with FinTechs and E-commerce companies,
 - Credit@click,
 - Tech-enabled agriculture lending,
 - EASE Banking Outlets etc.

➤ Performance Under EASE Reforms Agenda:

- **EASE Reforms Index:** The Index measures performance of each PSB on 120+ objective metrics. The goal is to continue driving change by encouraging healthy competition among PSBs.
- PSBs have done well and come out of **Prompt Corrective Action (PCA)** despite service extended during the pandemic.
- PCA is a framework under which banks with weak financial metrics are put under watch by the RBI.
- PSBs have recorded phenomenal growth over four quarters since the launch of EASE 3.0 Reforms Agenda in February 2020.

Breakthrough achievement by PSBs across themes



Sweat Equity Rules: SEBI

Why in News

Recently, the **Securities and Exchange Board of India (SEBI)** has brought into effect the **SEBI (Share Based Employee Benefits and Sweat Equity) Regulations, 2021**. The regulations have **widened the scope of employees who can be offered stock (equity) options**.

- SEBI has **merged** the SEBI (Share Based Employee Benefits) Regulations, 2014 (SBEB Regulations) and the SEBI (Issue of Sweat Equity) Regulations, 2002 (Sweat Equity Regulations).
- **SEBI** is a **statutory body** established in accordance with the provisions of the SEBI Act, 1992. Its basic

Note:



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function is to protect the interests of investors in securities and to regulate the securities market.

Key Points

➤ Sweat Equity:

○ About:

- Sweat equity is a non-monetary contribution that the individuals or founders of a company make towards the company. **Cash-strapped startups and business owners typically use sweat equity** to fund their companies.
- As per **Section 2(88) of the Companies Act, 2013** sweat equity shares means such **equity shares as are issued by a company to its directors or employees at a discount** or for consideration, other than cash.

○ Issued for:

- It will be issued for providing the **know-how or making available rights in the nature of intellectual property rights** or value additions.

○ Maximum Limit:

- The **maximum yearly limit of sweat equity shares** that can be issued by a listed company has been **prescribed at 15% of the existing paid-up equity share capital** within the overall limit, **not exceeding 25% of the paid-up capital at any time.**
- Further, in case of companies listed on the **Innovators Growth Platform (IGP)**, the **yearly limit will be 15% and overall limit will be 50%** of the paid-up capital at any time. It will be **applicable for 10 years** from the date of the company's incorporation.
 - **SEBI in 2019** launched IGP erstwhile known as '**Institutional Trading Platform**' for listing of issuers which are in intensive use of technology, information technology, intellectual property, data analytics, **biotechnology** or **nano-technology** to provide products, services or business platforms with substantial value addition.
- This proposal will **benefit all new start-up companies seeking listing on the IGP platform.**

➤ Share-based Employee Benefits:

○ Eligibility:

- Companies will **now be allowed to provide share-based employee benefits to employees,**

who are exclusively working for such a **company or any of its group companies including a subsidiary or an associate.**

- It is expected to **not only help companies** to better use **share-based employee benefits** for retaining employees for a longer period, but also **imbibe a sense of responsibility and ownership in the employee** that will push him/her to work for the growth of the company.

○ Locking Period:

- To provide **immediate relief to an employee or his/her family in instances of permanent incapacity or death**, the regulations have **dispensed with the requirement of a minimum vesting period and lock-in period** (minimum 1 year) for all share benefit schemes.

➤ Applicability:

- The new rules will be applicable **only to listed companies as these have been framed by SEBI, which only regulates listed companies.**
- A listed company is a **stock exchange-listed company** wherein the shares are **openly tradable whereas an unlisted company is a company that is not listed on the stock market.**
- **For unlisted companies**, any change needed will have to be brought into the **Companies Act 2013.**

New Development Bank

Why in News

Recently, during **BRICS** (Brazil, Russia, India, China and South Africa) meet, India proposed that **NDB's (New Development Bank) scope be expanded** to strengthen **Social Infrastructure** besides promoting industry.

- **Social Infrastructure** includes the construction and maintenance of facilities that support social services such as healthcare, education, and housing.
- **India is the chair of the BRICS grouping** for 2021.

Key Points

➤ About:

- It is a **multilateral development bank** jointly **founded by the BRICS countries** at the 6th BRICS Summit in Fortaleza, Brazil in 2014.
- It was formed **to support infrastructure and sustainable development efforts in BRICS and**

Note:

other underserved, emerging economies for faster development through innovation and cutting-edge technology.

- It is **headquartered at Shanghai, China**.
- In 2018, the NDB received observer status in the **United Nations** General Assembly, establishing a firm basis for active and fruitful cooperation with the UN.
- **Objectives:**
 - Fostering development of member countries.
 - Supporting economic growth.
 - Promoting competitiveness and facilitating job creation.
 - Building a knowledge sharing platform among developing countries.
- To fulfill its purpose, the Bank **supports public or private projects** through loans, guarantees, equity participation and other financial instruments.

➤ Major Projects funded by NDB in India:

- It has committed funding to a number of **major infrastructure projects in India, including the Mumbai Metro rail, Delhi-Ghaziabad-Meerut Regional Rapid Transit System and many Renewable Energy projects**.
- The NDB has so far approved 14 Indian projects for an amount of nearly USD 4.2 billion.
- In 2020, India announced a **1 billion USD loan pact with NDB** to boost rural employment and infrastructure.

➤ Achievements:

- **Innovations:**
 - The NDB has managed to innovate in some areas, **such as lending in local currencies to protect borrowing countries from a stronger dollar**, which was one of its founding features.
 - Another innovation is that the **bank accepts parameters for compliance with environmental and social standards designed by borrowers**, respecting its members' own policies.
- **Partnership with other Development Banks:**
 - It has established partnerships with important development banks, such as Latin American regional development bank CAF, the China-led **Asian Infrastructure Investment Bank**, and the **World Bank group**.

○ AA+ Credit rating:

- The NDB's **credit rating** is AA+, one short of the maximum, which other development banks such as AIIB have. This is despite many of its members, notably Brazil and South Africa, facing tough economic times domestically.

○ Emission of Various bonds:

- The bank has successfully emitted a number of bonds — including **'green bonds'** in 2016 — and has now approved 42 projects in member countries for a total of over USD 12 billion, more than the AIIB's roughly USD 8 billion portfolio.

➤ Issues:

○ Less disbursement of Loans:

- Though the bank has approved over USD 12 billion in loans, it has disbursed less than USD 1 billion so far, that is a very low figure.

○ Political Turmoil:

- **Relations between China and India soured**, sanctions against Russia made it difficult to lend to Russian companies, and then there was political instability and economic crises in both South Africa and Brazil.
- Continuing to advance the interests of the developing world in a rough political climate proved to be a hard task at which member countries don't seem to have excelled.

○ Issue of Sustainability:

- Though the NDB has recently approved loans for climate change mitigation and adaptation in Brazil and renewable energy in India, it has labelled a number of projects that are **environmentally questionable as sustainable, without explaining the criteria it uses**.
 - One of its sustainable projects is the paving of the **Trans-Amazonian highway in Brazil**, a highly controversial road that many environmentalists blame for exacerbating deforestation in the world's largest tropical rainforest.

RoDTEP Scheme

Why in News

Recently, the **Ministry of Commerce and Industry** has announced **rates of tax refunds** under the **Remission**

Note:

of Duties and Taxes on Exported Products (RoDTEP) scheme for 8,555 products for the FY 2021-22.

Key Points

➤ About:

- The RoDTEP scheme would **refund to exporters the embedded central, state and local duties or taxes that were so far not being rebated or refunded** and were, therefore, placing India's exports at a disadvantage.
- The rebate under the scheme **would not be available** in respect of duties and taxes already exempted or remitted or credited.

➤ Launch:

- It was **started in January 2021** as a replacement for the **Merchandise Export from India Scheme (MEIS)**, which was not compliant with the rules of the **World Trade Organisation**.
 - The MEIS scheme provided additional benefits of **2% to 7% on the Freight On Board (FOB) value** of eligible exports.
 - As per the WTO norms, a country can't give export subsidies like MEIS if Per capita income is above 1000 USD and India's Per Capita Income crossed above 1000 USD in 2017. India subsequently lost the case at WTO and had to come up with a new WTO compliant scheme to help Indian exporters.
- For garment exporters, the **Rebate of State and Central Levies and Taxes (RoSCTL) Scheme** has been notified separately.

➤ Rates:

- The tax refund rates **range from 0.5% to 4.3%** for various sectors.
- The rebate will have to be claimed as a **percentage of the Freight On Board value of exports**.

➤ Issuance:

- Rebates will be issued in the form of a transferable duty credit/ electronic scrip (e-scrip) which will be maintained in an electronic ledger by the **Central Board of Indirect Taxes and Customs (CBIC)**.

➤ Significance:

- **Enhance India's Competitiveness:**
 - The reimbursement of taxes such as duty on power charges, **Value-Added Tax** on fuel in transportation, **Farm Sector** etc. will make Indian products competitive in global markets.

- It is expected to significantly impact India's competitiveness, trade flows and export numbers over the next 5-10 years.

○ Par with International Standards:

- Indian exporters will be able to meet the international standards for exports **as affordable testing and certification will be made available to exporters** within the country instead of relying on international organizations.
- This would increase the economy for the country and working capital for the enterprise.-

○ Automated Tax Assessment:

- Also under it, **tax assessment is set to become fully automatic for exporters**. Businesses will get access to their refunds for **GST (Goods and Services Tax)** via an automatic refund-route.

➤ Concerns:

○ Lower Rates:

- The scheme disappointed many exporters as the **rates are much lower than MEIS rates** with lesser budget allocation.
- The rates have not taken into account the **taxes embedded in their raw material like steel in the engineering products** in a large number of cases.

○ Deprive Large Sectors:

- The benefit appears not to be available to major exports such as steel, pharma, etc. and exports made under Advance Authorisation, EOU (Export oriented unit), **SEZ (Special Economic Zone)**, etc.
- It will have an adverse impact **on competitiveness of Indian exports** and will send negative sentiment amongst the exporters.

Small Finance Bank

Why in News

Recently, the **Reserve Bank of India (RBI)** has received applications from two more entities under the **"on-tap" small finance bank licensing guidelines** of 2019.

- An "on-tap" facility would mean the RBI will **accept applications** and grant licences for banks **throughout the year**.

Key Points

➤ About:

Note:

- These are the **financial institutions** which provide **financial services** to the **unserved** and **unbanked region** of the country.
- Registered as a **public limited company** under the **Companies Act, 2013**.
- Needs to open **at least 25% of its banking outlets** in **unbanked rural centres**.
- Required to **extend 75% of its adjusted net bank credit** to the **Priority Sector Lending (PSL)**.
 - The RBI mandates banks to lend a certain portion of their funds to specified sectors, like agriculture, Micro, Small and Medium Enterprises (MSMEs), export credit, education, housing, social infrastructure, renewable energy among others.
- At least **50% of its loan portfolio** should constitute **loans and advances of up to Rs. 25 lakhs**.
- The **maximum loan size and investment limit** exposure to a single and group debtor would be restricted to 10% and 15% of its capital funds, respectively. They **cannot extend large loans**.
- If the **initial shareholding by promoters** in the bank is in excess of 40% of paid-up voting equity capital, it should be brought down to 40% within a period of 5 years.
- Subject to **Cash Reserve Ratio (CRR)** and **Statutory Liquidity Ratio (SLR)** requirements.
 - Banks are required to hold a certain proportion of their deposits in the form of cash known as the CRR.
 - This **minimum ratio** (that is the part of the total deposits to be held as cash) is stipulated by the RBI.
 - The share of **Net Demand and Time Liabilities** that a bank is required to maintain safe and liquid assets, such as government securities, cash, and gold is termed as SLR.
- **Eligibility for Setting up SFBs:**
 - **Resident individuals/professionals** with 10 years of experience in banking and finance.
 - The companies and societies owned and controlled by residents.
 - **Existing Non-Banking Finance Companies (NBFCs), Micro Finance Institutions (MFIs), Local Area Banks (LABs)** and payment banks that are owned and controlled by residents.

➤ Guidelines for 'on-tap' Licencing:

- **Capital Requirement:** The minimum paid-up voting equity capital / net worth requirement shall be Rs. 200 crores.
 - **For Primary (Urban) Co-operative Banks (UCBs)**, desirous of voluntarily transiting into SFBs, initial requirement of net worth shall be at Rs. 100 crores, which will have to be increased to Rs. 200 crores within 5 years from the date of commencement of business.
- **Scheduled Bank status to SFBs:** SFBs will be given scheduled bank status immediately upon commencement of operations.
- **Payments Banks Conversion to SFBs:** The **payment banks** can apply for conversion into SFB after 5 years of operations if they are otherwise eligible as per these guidelines.

Scheduled Banks

- Scheduled banks are banks that are **listed in the 2nd schedule of the Reserve Bank of India Act, 1934**.
- The bank's paid-up capital and raised funds **must be at least Rs. 5 lakh** to qualify as a scheduled bank.
- Scheduled banks are **liable for low-interest loans from the Reserve Bank of India** and membership in clearinghouses.
- All commercial banks, including nationalized, international, cooperative, and regional rural banks, fall under scheduled banks.

Ubharte Sitaare Alternative Investment Fund

Why in News

Recently, the **Ministry of Finance** has launched '**Ubharte Sitaare**' **Alternative Investment Fund** to facilitate debt and equity funding to **export-oriented MSMEs** (Micro Small and medium Enterprises).

- The fund is **expected to identify Indian enterprises with potential advantages**, but **which are currently underperforming** or unable to tap their latent potential to grow.

Note:

Alternative Investment Fund

- Anything alternative to traditional forms of investments **gets categorized as alternative investments.**
- In India, AIFs are defined in **Regulation 2(1)(b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.**
- It refers to **any privately pooled investment fund, (whether from Indian or foreign sources), in the form of a trust or a company or a body corporate or a Limited Liability Partnership (LLP),** which are not presently covered by any Regulation of SEBI governing fund management nor coming under the direct regulation of any other sectoral regulators in India.
- Thus, the definition of AIFs includes venture **Capital Fund, hedge funds, private equity funds, commodity funds, Debt Funds, infrastructure funds, etc.**

Key Points

- **About:**
 - Under the scheme, an identified company is supported **even if it is currently underperforming or may be unable to tap its latent potential to grow.**
 - The scheme diagnoses such challenges and provides support through **a mix of structured support covering equity, debt and technical assistance.** It will also have a **Greenshoe Option** of Rs 250 crore.
 - A **greenshoe option** is an **over-allotment option**, which is a term that is commonly used to describe a special arrangement in a share offering for example an **IPO (Initial Public Offering)** that will enable the investment bank to support the share price after the offering **without putting their own capital at risk.**
 - The fund has been set up jointly by **Exim Bank and SIDBI** (Small Industries Development Bank of India) which will invest in the fund by way of equity and equity-like products in export-oriented units, in both manufacturing and services sectors.
- **Criteria for Selecting Companies:**
 - **Unique value:**
 - Companies will be selected for support based on their **unique value proposition in technology, products or processes that match global requirements;**
 - **Financial Strength:**

- Fundamentally strong companies **with acceptable financials, and outward orientation; small and mid-sized companies with ability to penetrate global markets,** with an annual turnover of up to approx. Rs 500 crore.
- **Business Model:**
 - Companies with **a good business model, strong management capabilities, and focus on product quality.**
- **Support:**
 - Eligible companies can be supported by both **financial and advisory** services by way of **equity / equity-like instruments, term loans** for modernisation, **technology** or capacity **upgradation;** and technical assistance for product adaptation, market development activities and viability studies.
- **Objectives:**
 - To enhance India's competitiveness in **select sectors through finance and extensive handholding support.**
 - Identify and nurture companies having **differentiated technology, products or processes,** and enhance their export business; assist units with export potential, which are unable to scale up their operations for want of finance.
 - Identify and mitigate challenges faced by **successful companies which hinder their exports.**
 - Assist existing exporters in **widening their basket of products and target new markets** through a strategic and structured export market development initiative.

Samarth Udyog Bharat 4.0 Platform

Why in News

Recently, **Central Manufacturing Technology Institute (CMTI) Bangalore, under the SAMARTH Udyog Bharat 4.0 Platform organized a webinar** on "Expert Talks from Samarth Udyog Centres" to celebrate the Azadi ka Amrit Mahotsav.

- The **objective** was to listen to the experts of the Samarth Udyog Centres on the indigenous technology developments & the **ways for collaborations in the domain of Smart Manufacturing & Industry 4.0.**

Note:

- **CMTI** is a **Research & Development organisation** under the aegis of the **Ministry of Heavy Industries**, focusing on providing 'Technology Solutions' to the manufacturing sector and assisting technological growth in the country.
- **Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH)-Udyog Bharat 4.0** is an **Industry 4.0 initiative of the Department of Heavy Industry**, under its scheme on **Enhancement of Competitiveness in Indian Capital Goods Sector**.
 - The scheme on 'Enhancement of competitiveness in the Indian Capital Goods Sector' was notified in 2014 to encourage technology development and infrastructure creation.
- **CMTI** has established **Smart Manufacturing Demo & Development Cell (SMDDC)** as a **Common Engineering Facility Centre (CEFC)** to propagate and support the process of adoption of Industry 4.0 and smart manufacturing practices by the rapidly growing Indian manufacturing industry.

Global Manufacturing Risk Index

Why in News

Recently, India has overtaken the United States (US) to become the **second-most sought-after manufacturing destination globally**, driven mainly by cost competitiveness in the **Global Manufacturing Risk Index 2021**.

- In last year's report, the US was at second position while India ranked third.

Key Points

- **About the Global Manufacturing Risk Index:**
 - It assesses the **most advantageous locations for global manufacturing** among **47 countries in Europe, the Americas and Asia-Pacific (APAC)**.
 - The rankings in the report are determined based on **four key parameters**:
 - Country's capability to restart manufacturing,
 - Business environment (availability of talent/labour, access to markets),
 - Operating costs,
 - Risks (political, economic and environmental).
 - The index is released by the **US-based property consultant Cushman & Wakefield**.

- **China remains at number one position** and the **US is at third position**, in the Global Manufacturing Risk Index, 2021.
- The improvement in ranking indicates the growing interest shown by manufacturers in India as a preferred manufacturing hub over other countries, including the US and those in the APAC region.
- **Factors Responsible for Improvement in India's Ranking:**
 - The growing focus on India can be attributed to **India's operating conditions and cost competitiveness**.
 - India has a huge population, which means a **younger workforce with innovative capabilities** that has the potential to fuel the country's manufacturing sector.
 - The improvement in ranking can be also attributed to **plant relocations from China to other parts of Asia** due to an already established base in pharma, chemicals and engineering sectors.
 - Also, these factors continue to be at the centre of the **US-China trade tensions**.

4-Tier Structure for Urban Cooperative Banks

Why in News

Recently, a **Reserve Bank of India (RBI)**-appointed committee has suggested a **four-tier structure for the Urban Cooperative Banks (UCBs)**.

- In June 2020, the Central government approved an Ordinance to bring all **urban and multi-state co-operative banks under the direct supervision of the RBI**.
- In January 2020, the RBI **revised the Supervisory Action Framework (SAF) for UCBs**.

Key Points

- **Categorisation of UCBs:**
 - Based on the cooperativeness' of the banks, availability of capital and other factors, UCBs may be **categorised into four tiers for regulatory purposes**:
 - **Tier 1** with all unit UCBs and salary earner's UCBs (irrespective of deposit size) and all other UCBs having **deposits up to Rs 100 crore**.

Note:



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- **Tier 2** with UCBs of deposits between Rs 100 crore and Rs 1,000 crore.
- **Tier 3** with UCBs of deposits between Rs 1,000 crore and Rs 10,000 crore.
- **Tier 4** with UCBs of deposits more than Rs 10,000 crore.
- The minimum **Capital to Risk-Weighted Assets Ratio (CRAR)** for them could vary from 9% to 15% and for Tier-4 UCBs the **Basel III** prescribed norms.
- **Umbrella Organisation:**
 - The committee has proposed **setting up an Umbrella Organisation (UO) to oversee co-operative banks** and suggested that they should be allowed to open more branches if they meet all regulatory requirements.
 - The **UO should be financially strong** and be well governed by a professional board and senior management, both of which are fit and proper.
- **Reconstruction:**
 - Under the Banking Regulation (BR) Act, 1949 the **RBI can prepare a scheme of compulsory amalgamation or reconstruction of UCBs**, like banking companies.
- **Supervisory Action Framework:**
 - **SAF should follow a twin-indicator approach** -- it should consider only asset quality and capital measured through Net **Non-Performing Assets** and CRAR – instead of triple indicators at present.
 - The **objective of the SAF should be to find a time-bound remedy to the financial stress of a bank.**
 - **If a UCB remains under more stringent stages of SAF** for a prolonged period, it may have an **adverse effect on its operations** and may further erode its financial position.
- **Need of Reform:**
 - **Restrictive Policies:**
 - Owing to **lack of the desired level of regulatory comfort** on account of the structural issues including 'capital' and the gaps in the statutory framework, the **regulatory policies for co-operative banks have been restrictive** with regard to their business operations, which, to some extent, has been one of the reasons affecting their growth.

- With the enactment of the **Banking Regulation (Amendment) Act, 2020**, the statutory gaps have been addressed to a very large extent.
- **Financial Inclusion:**
 - Given the importance of the sector in **furthering financial inclusion and considering the large number of its customer base**, it is **imperative that the strategies adopted for the regulation of the sector are comprehensively reviewed** so as to enhance its resilience and provide an enabling environment for its sustainable and stable growth in the medium term.

Co-operative Banks

- **About:**
 - **Co-operative Banks**, which are **distinct from commercial banks**, were born out of the concept of co-operative credit societies where members from a community group together to **extend loans to each other, at favourable terms.**
 - Co-operative Banks are **broadly classified into Urban and Rural co-operative banks** based on their region of operation.
 - They are **registered under the Co-operative Societies Act** of the State concerned or under the **Multi-State Co-operative Societies Act, 2002.**
 - The Co-operative banks are governed by the
 - Banking Regulations Act, 1949.
 - Banking Laws (Co-operative Societies) Act, 1955.
- **Features of Co-operative Banks:**
 - **Customer Owned Entities:** Co-operative bank members are both customer and owner of the bank.
 - **Democratic Member Control:** These banks are owned and controlled by the members, who democratically elect a board of directors. Members usually have equal voting rights, according to the cooperative principle of "one person, one vote".
 - **Profit Allocation:** A significant part of the yearly profit, benefits or surplus is usually allocated to constitute reserves and a part of this profit can also be distributed to the co-operative members, with legal and statutory limitations.
 - **Financial Inclusion:** They have played a significant role in the financial inclusion of unbanked rural masses. They provide cheap credit to masses in rural areas.

Note:

Basel III Norms**➤ About:**

- Basel III is an **internationally agreed set of measures** developed by the **Basel Committee on Bank Supervision** in response to the financial crisis of 2007-09. The measures aim **to strengthen the regulation, supervision and risk management of banks**.
- BCBS members are committed to implementing and applying standards in their jurisdictions within the time frame established by the Committee.

➤ Three Pillars: Basel 3 measures are based on three pillars:

- **Pillar 1:** Improve the banking sector's ability to absorb ups and downs arising from financial and economic instability
- **Pillar 2:** Improve risk management ability and governance of banking sector
- **Pillar 3:** Strengthen banks' transparency and disclosures

G-sec**Acquisition Programme 2.0****Why in News**

Recently, the **Reserve Bank of India (RBI)** has announced that it will **conduct an open market purchase of government securities of Rs 25,000 crore under the G-sec Acquisition Programme (G-SAP 2.0)**.

- Earlier, under **G-SAP 1.0**, the first purchase of government securities for an aggregate amount of Rs. 25,000 crore was made.

Key Points**➤ Government Securities Acquisition Programme (G-SAP):**

- **About:** The G-Sec Acquisition Programme (G-SAP) is basically **an unconditional and a structured Open Market Operation (OMO)**, of a much larger scale and size.
 - RBI has called the G-SAP as an OMO with a **'distinct character'**.

- The word 'unconditional' here connotes that RBI has committed upfront that it will buy G-Secs irrespective of the market sentiment.

- **Objective:** To achieve a **stable and orderly evolution of the yield curve along with management of liquidity** in the economy.

- **Significance:** The government will mainly benefit from the G-SAP.

- By purchasing G-secs, the RBI **infuses money supply into the economy** which in turn keeps the **yield down and lower the borrowing cost of the Government**.

- The government of India, with its massive borrowing programme (for example, **National infrastructure pipeline project**), can now breathe a sigh of relief as long-term borrowing costs come down.

- **Issues:** Critics of the G-SAP say that the **rupee might get adversely affected**.

- They are of the view that the G-SAP announcement has already led to **depreciation of the rupee** (a fall in the value of currency).

- So, critics are pointing to the fact that there is a **trade-off between a tumbling rupee and lower borrowing costs/low yields**.

- Further, too much liquidity will **drive up inflation**.

➤ Government Securities:

- A G-Sec is a **tradable instrument** issued by the Central Government or the State Governments.
- It acknowledges the **Government's debt obligation**. Such securities are short term (usually called treasury bills, with original **maturities of less than one year**- presently issued in three tenors, namely, 91 day, 182 day and 364 day) or **long term (usually called Government bonds** or dated securities with original maturity of one year or more).
- In India, the Central Government issues **both treasury bills and bonds or dated securities** while the State Governments **issue only bonds or dated securities**, which are called the **State Development Loans (SDLs)**.
- G-Secs **carry practically no risk of default** and, hence, are called **risk-free gilt-edged instruments**.
 - Gilt-edged securities are **high-grade investment bonds** offered by governments and large corporations as a means of borrowing funds.

Note:



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Defence Testing Infrastructure Scheme

Why in News

Recently, the **Defence Ministry** has announced that it will soon issue **Requests For Proposal (RFPs)** to set up **eight defence testing facilities in the country** in partnership with the **private sector**.

- These RFPs would be issued under the **Defence Testing Infrastructure Scheme (DTIS)**.
- The RFP is a **business document** that announces a project, describes it, and invites bids for completing it.

Key Points

- **Background:**
 - Under **Make in India**, India has accorded **high priority to development of the manufacturing base of Defence and Aerospace sectors in the country** so as to reduce dependence on imports.
 - Towards this, the establishment of **Defence Industrial Corridors (DICs)** in **Uttar Pradesh and Tamil Nadu** was announced.
 - Several other initiatives like **Revised Make-II procedures, Innovations for Defence Excellence (iDEX)** and **Defence Investors Cell** have been created with an aim to provide an ecosystem to foster innovation and technology development and encourage Indian industry to invest in Aerospace and Defence sectors.
 - **Defence Investors Cell** was created to **provide all necessary information** including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector.
- **About DTIS:**
 - The scheme was launched on **8th May, 2020** and would run for the **duration of five years**.
 - It envisages **setting up of 6-8 Greenfield Defence Testing Infrastructure facilities** that are required for **defence and aerospace related production**.
 - It also envisages to **set up test facilities** in partnership with private industry.
- **Objectives:**
 - **Promote indigenous defence production**, with special focus on participation of the **Ministry of**

Micro, Small and Medium Enterprises (MSMEs) and **Start Ups** by bridging gaps in defence testing infrastructure in the country.

- **Provide easy access** and to **meet the testing needs** of the domestic defence industry.
- **Facilitate indigenous defence production**, consequently reduce imports of military equipment and help make the country self-reliant.
- **Finance and Cooperation:**
 - The Scheme has an **outlay of Rs 400 crore** for creating **state of the art testing infrastructure** over the duration of five years.
 - The projects under the Scheme will be provided with up to **75% government funding in the form of 'Grant-in-Aid'**.
 - The **remaining 25% of the project cost** will have to be borne by the **Special Purpose Vehicle (SPV)** whose constituents will be **Indian private entities and State Governments**.
 - **Only private entities registered in India and State Government agencies** will qualify for forming the implementation agency for the Scheme.
 - The **SPVs under the Scheme** will be registered under **Companies Act 2013**.

Financial Inclusion Index

Why in News

Recently, the **Reserve Bank of India (RBI)** has unveiled the **first composite Financial Inclusion Index (FI-Index)**.

- The **annual FI-Index** for the **financial year ended March 2021** crossed the halfway mark to 53.9, as compared to 43.4 for the year ended March 2017.

Key Points

- **About:**
 - The index has been **conceptualised as a comprehensive index** incorporating details of banking, investments, insurance, postal as well as the pension sector in consultation with the government and respective sectoral regulators.
 - It will be **published annually in July every year**.
 - It **has been constructed without any 'base year'** and as such it **reflects cumulative efforts** of all stakeholders over the years towards financial inclusion.

Note:

- **Aim:**
 - To capture the **extent of financial inclusion** across the country.
- **Parameters:**
 - It **captures information on various aspects of financial inclusion** in a **single value ranging between 0 and 100**, where 0 represents complete financial exclusion and 100 indicates full financial inclusion.
 - It comprises three **broad parameters (weights indicated in brackets)** viz., **Access (35%), Usage (45%), and Quality (20%)** with each of these consisting of various dimensions, which are computed based on a number of indicators.
 - The index is **responsive to ease of access, availability and usage of services, and quality of services** for all 97 indicators.
- **Importance of FI Index:**
 - **Measures Level of Inclusion:** It provides information on the **level of financial inclusion** and **measures financial services** for use in internal policy making.
 - **Development Indicators:** It can be used **directly as a composite measure** in development indicators.
 - **Fulfill the G20 Indicators:** It enables fulfilment of **G20 Financial Inclusion Indicators** requirements.
 - The G20 indicators **assess the state of financial inclusion and digital financial services**, nationally and globally.
 - **Facilitate Researchers:** It also **facilitates researchers to study the impact of financial inclusion** and other macroeconomic variables.

Hunar Haats

Why in News

The **Union Ministry of Minority Affairs** has set a target to provide employment opportunities to **7 lakh 50 thousand artisans, craftsmen** through **75 “Hunar Haat”**.

- To be organised across the country, the 75 Haats will be a part of the **‘Amrit Mahotsav’** and will **mark 75 years of India’s Independence**.
- Also, **75 “Amrit Mahotsav Parks”** will be constructed on the **vacant Waqf lands** across the country under **“Waqf Taraqqiati Scheme”** and **“Pradhanmantri Jan Vikas Karykram” (PMJVK)**.

Key Points

- **About:**
 - **Hunar Haat** is an **exhibition of handicrafts and traditional products** made by artisans from the minority communities.
- **Theme:**
 - **Vocal for Local**.
- **Organizer:**
 - These are organised by the **Ministry of Minority Affairs** under **USTTAD (Upgrading the Skills & Training in Traditional Arts/Crafts for Development) scheme**.
 - The USTTAD scheme **aims to promote and preserve the rich heritage of the traditional arts & crafts** of the minority communities.
- **Aim:**
 - These **Haat aims to provide market exposure and employment opportunities** to artisans, craftsmen and traditional culinary experts.
 - It envisages **boosting the skills of craftsmen, weavers and artisans** who are already engaged in the traditional ancestral work.
- **Significance:**
 - **‘Hunar Haat’** has proved to be an **“Empowerment Exchange”** for master artisans and craftsmen.
 - It has **proved to be immensely beneficial and encouraging** for artisans and craftsmen as lakhs of people visit the “Hunar Haat” and purchase indigenous handmade products of artisans on a large scale.
 - More than **5 lakh artisans, craftsmen and people associated** with them have been **provided employment and employment opportunities** in the last about **5 years** through **“Hunar Haat”**.

TAPAS Initiative

Why in News

Recently, the **Ministry for Social Justice and Empowerment** has launched an online portal **TAPAS (Training for Augmenting Productivity and Services)**.

- The idea of TAPAS was conceptualised at a time when exploring the **online medium for work and education** had become imperative due to the outbreak of **Covid 19 pandemic**.

Note:



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Key Points

➤ About:

- It offers various courses in the field of social defence for the capacity building of stakeholders. It is an initiative of **National Institute of Social Defense (NISD)**.
 - **Social defence** is generally understood as the **protection of society against crime through a systematically organized and coherent action** by both the State and civil society.
- It is a standard **MOOC (Massive Open Online Course)** platform with course material such as **filmed lectures and e-study material**.
 - MOOC is a free **Web-based distance learning program** that is designed for the participation of large numbers of geographically dispersed students.
- It also includes **discussion forums to support and encourage interactions** among students and course coordinators.
- It will **provide access to lectures by subject experts, study material and more**, but in a manner that it **supplements the physical classroom** without compromising on the quality of teaching.
- It **can be taken up by anyone** who wishes to enhance his or her knowledge on the topics and there is no fee for joining.
- The platform has been made with a **quadrant approach**, which is:
 - Video, Text, Self Assessment and Discussions.

➤ Courses:

- The five basic courses are on **Drug (Substance) Abuse** Prevention, Geriatric/**Elderly** Care, Care and Management of Dementia, **Transgender** Issues and on comprehensive course on Social Defence Issues.

➤ Objective:

- To **impart training and enhance the knowledge and skills for the capacity building** of the participants.

➤ Significance:

- In our education system, where the offline mode of teaching is so deeply entrenched, this course **will lead the path of change and open up new possibilities**.

- It will enable the Ministry for Social Justice and Empowerment in **reaching out to an even larger number of people working in the area of social defence**.

SAMRIDH Programme

Why in News

Recently, the **Ministry of Electronics & Information Technology (MeitY)** has launched the '**Start-up Accelerators of MeitY for Product Innovation, Development and growth (SAMRIDH)**' programme.

Key Points

➤ About the Scheme:

- To **create a conducive platform to Indian Software Product start-ups** to enhance their products and secure investments for scaling their business.
- Focuses on accelerating the **300 start-ups** by providing customer connect, investor connect, and international immersion in the **next three years**.
- To provide **investment of up to Rs 40 lakh to the start-up** based on current valuation and growth stage of the Start-Up **through selected accelerators**.
- Being **implemented by MeitY Start-up Hub (MSH)**.
 - MSH acts as a **national coordination, facilitation and monitoring centre** that will integrate all the incubation centres, start-ups and innovation related activities of MeitY.
- To further the Indian start-up growth which has seen the emergence of 63 unicorns and is **now the third largest unicorn hub** globally with a total valuation of USD 168 billion.
 - "Unicorn" is a term used in the venture capital industry to describe a privately held startup company with a value of over \$1 billion.

➤ Other Related Initiatives:

- **Start Up India Fund**
- **Start-up Cells**
- **National Startup Advisory Council**
- **Atmanirbhar Bharat ARISE-Atal New India Challenge**
- **AIM-iCREST**



Note:

International Relations

Highlights

- China's New Maritime Regulations for Foreign Ships
- British Stamps Banned from Chagos Islands
- Greater Male Connectivity Project: Maldives
- Congressional Gold Medal
- Environment and Agricultural Ministerial Meeting: BRICS
- KAZIND-21
- UNITE Aware Platform
- IBSA Forum
- Taliban Controls Kabul
- India-Philippine Maritime Exercise
- Delisting Taliban from Sanctions: UN
- India-Netherlands Relations
- Malabar Exercise 2021
- China's Interests in Afghanistan

China's New Maritime Regulations for Foreign Ships

Why in News

Recently, China has notified new maritime rules, warranting vessels to report their information when passing through what China sees as its **"Territorial Waters"**, that will take effect from 1st September 2021.

- China claims under a so-called **"Nine Dash Line"** on its maps most of the South China Sea's waters, which are disputed by several other countries, including the **Philippines, Vietnam, Malaysia and Indonesia**.

Key Points

- **About:**
 - Operators of submersibles, nuclear vessels, ships carrying radioactive materials and ships carrying bulk oil, chemicals, liquefied gas and other toxic and harmful substances that may endanger the maritime traffic safety of China **are required to report their detailed information upon their visits to Chinese territorial waters.**
 - China claims almost **all of the 1.3 million square-mile South China Sea as its sovereign territory.** It has been building military bases on artificial islands in the region.
 - It is seen as **a sign of stepped-up efforts to safeguard China's national security** at sea by implementing strict rules to boost maritime identification capability.



- China sees the **US' incursion into the region is of assertive nature** that can be the biggest destroyer of peace and stability in the region.
- **Implications:**
 - **Impact on Navigation and Trade:**
 - Indian commercial vessels as well as ships of the Indian Navy regularly traverse the waters of the South China Sea, through which pass key international sea lanes.
 - Peace and stability in the region is of great significance to India. India undertakes various activities, including cooperation in the oil and gas sector, with the **Littoral States** of South China Sea.

Note:

- Over \$5 trillion trade passes through the **South China Sea**, and 55% of India's trade passes through its waters and the **Malacca Straits**.

○ **Inconsistent with International Law:**

- It is seen as being inconsistent with the **United Nations Convention on the Law of the Sea (UNCLOS)**, which states that ships of all countries "enjoy the right of innocent passage through the territorial sea".

○ **Regional Turbulence:**

- The new rules are expected to increase tensions if China strictly enforces them in the disputed South China Sea and the Taiwan straits where the US and its allies have been conducting naval expeditions, challenging Beijing's claims to assert the freedom of navigation.

➤ **Nine Dash Line:**

- Stretches hundreds of kilometers south and east of China's southerly Hainan Island, covering the strategic Paracel and Spratly island chains.
 - It is **deemed by most countries as being inconsistent with the UNCLOS**, which only gives states the right to establish a territorial sea up to 12 nautical miles.
- China claims it by citing 2,000 years of history when the two island chains were regarded as its integral parts.
- The **Hague-based Permanent Court of Arbitration** issued a decision in 2016, rejecting China's claims as lacking a basis in international law. **China dismissed the ruling then.**



British Stamps Banned from Chagos Islands

Why in News

Recently, the **United Nations (UN)** has **banned British stamps** from being used on the **Chagos archipelago**.

Key Points



➤ **About:**

- Now the UPU (Universal Postal Union) will stop registering, distributing and transmitting stamps bearing the words **British Indian Ocean Territory (BIOT)**, the name given by Britain to the archipelago.
 - UPU is a **United Nations specialized agency** and the postal sector's primary forum for international cooperation.
- **Chagos archipelago** is an island group in the **central Indian Ocean**, located about 1,600 km south of the southern tip of the Indian subcontinent.

➤ **Background:**

- In the **19th century**, Chagos were governed from **Mauritius**, which was a **British Colony**.
- **Mauritius became independent in 1968**, but the Chagos archipelago remained under British control. The U.K. government refers to it as **BIOT**.
 - That Sparked protests by Chagossians, who accused London of carrying out an "illegal occupation" and barring them from their homeland.
- The UK retained possession of the Chagos archipelago, which **includes the strategic US airbase of Diego Garcia**, after Mauritius gained its independence by paying Mauritius more than 4 million pounds for the islands.
 - About 1,500 native islanders were deported from the Diego Garcia island in Chagos archipelago

Note:

so that it could be leased to the US for the airbase in 1971.

- Since 1975, Mauritius has made a concerted legal effort to secure the archipelago's return to its fold.
- **Recent developments:**
 - In 2019, the **International Court of Justice (ICJ)** ruled that **Britain should give up control** of the islands.
 - Later in 2019, the **UN General Assembly** adopted a resolution recognising that **"the Chagos Archipelago forms an integral part of the territory of Mauritius"** and urged UN agencies **"to support the decolonisation of Mauritius"**.
- **India's Stand:**
 - India has supported Mauritius' stand on the Chagos Archipelago. India in its submission to ICJ has said that the **Chagos Archipelago has been and continues to be with Mauritius** and demanded sovereignty over the Chagos Archipelago from Britain.
 - India stayed **committed to its Indian Ocean neighbor Mauritius**, as well as its anti-colonial credentials.

Greater Male Connectivity Project: Maldives

Why in News

Recently, Afcons, an Indian company, has signed a contract for the **largest-ever infrastructure project in Maldives** which is the **Greater Male Connectivity Project (GMCP)**.

- The project is the **result of bilateral consultation between India and the Maldives** and has been under discussion since the visit of India's External Affairs Minister to Male in September 2019.



Key Points

- **Greater Male Connectivity Project:**
 - It will consist of a **6.74 km-long bridge** and causeway link **between Male and nearby islands of Villingli, Gulhifalhu and Thilafushi**. It will use **renewable energy**.
 - The project is funded by a **grant of USD 100 million** and a **Line of Credit (LOC)** of **USD 400 million** from India.
 - It is **not only the biggest project India** is doing in the Maldives but **also the biggest infrastructure project in the Maldives overall**.
- **Significance:**
 - It is considered as the **economic lifeline for the Maldives** and will provide a **major boost to connectivity between the four islands** accounting for about half of the Maldivian population.
 - It will **add dynamism to the Maldivian transport and economic activities**.
- **India-Maldives-China:**
 - The GMCP project would be **bigger than the Sinamale Bridge built with Chinese assistance** that connects Male with Hulhumale and Hulhule and was completed in 2018.
 - Also the **Indian aid to Maldives in August 2020** was **appreciated and contrasted with the previous expensive commercial loans to Maldives by China** which are being termed **"debt-trap diplomacy" of China**.
 - Wherein **China intentionally extends excessive credit** to another country with the **intention of extracting economic or political concessions** from the debtor country.
 - The India-Maldives relationship suffered a setback when Maldives entered into a **Free-Trade Agreement (FTA)** with China in 2017.
 - However with the **election of a new pro-India government in Maldives**, the relationships have improved and Maldives is also considering pulling out of the FTA with China.
 - At present, **India-assisted projects** in the region include **water and sewerage projects on 34 islands**, reclamation projects for the Addl island, a port on Gulhifalhu, airport redevelopment at Hanimaadhoo, and a hospital and a cricket stadium in Hulhumale.

Note:

- India had also announced a **800 million USD Line of Credit to Maldives in December 2018.**

Congressional Gold Medal

Why in News

Recently, a **resolution** has been reintroduced in the **US House of Representatives** to posthumously award the **Congressional Gold Medal** to **Mahatma Gandhi** for his contributions made through his **methods of non-violence**.

- If given the award, Mahatma Gandhi **would become the first Indian to receive the Congressional Gold Medal**, which is the **highest civilian award in the US**.

Key Points

- **About the Award:**
 - The **US Congress (legislature)** has **commissioned gold medals as its highest expression of national appreciation** for distinguished achievements and contributions.
 - The **first recipients** of the medal were **participants of the American Revolution (1775-83), the War of 1812 and the Mexican War (1846-48)**.
 - Most recently, the medal was **awarded to the US Capitol Police** and those who protected the US Capitol on 6th January 2021, the day of the siege.
- **Gandhian Strategy of Non-Violence:**
 - Gandhi **took the religious principle of ahimsa (doing no harm)** common to Buddhism, Hinduism and Jainism and turned it into a non-violent tool for mass action.
 - Gandhi called it **"satyagraha"** which means **'truth force.'**
 - In this doctrine, the aim of any non-violent conflict was to convert the opponent; to win over his mind and his heart and persuade him.
 - He used it to **fight not only colonial rule but social evils** such as racial discrimination and untouchability as well.
 - In **South Africa (1893-1915), he had successfully fought the racist regime** with a novel method of mass agitation, which he called satyagraha.
 - Mahatma Gandhi's **first civil disobedience movement in India** was in support of the indigo cultivators in **Champaran, Bihar in 1917**.

- In **1919**, he decided to launch a **nationwide satyagraha** against the proposed **Rowlatt Act (1919)**.
- During the **Non-cooperation movement (1920-22)**, there was a massive upsurge of enthusiasm for Gandhi and his methods, with Indians from all political spectrum and religions joining the movement.
- Other examples include **Salt Satyagraha (1930)** and **Quit India movement (1942)**.
- Many people such as **Martin Luther King, Nelson Mandela, Dalai Lama, Aung San Suu Kyi, etc.** have **followed the path** shown by Bapu and have brought prosperity to themselves and their societies.

Environment and Agricultural Ministerial Meeting: BRICS

Why in News

Recently, the **BRICS (Brazil, Russia, India, China and South Africa) Environment and Agriculture Ministers' Meeting** was held.

- BRICS brings together the major emerging economies of the world, hosting 41% of the world population, contributing 24% of the world **Gross Domestic Product (GDP)** and over 16% share in world trade.
- **India is the chair of the BRICS grouping for 2021.**

Key Points

- **7th BRICS Environment Ministerial 2021:**
 - **Area of Focus:**
 - **Air pollution, circular economy**, combating marine plastic litter and **single use plastic** product pollution, forestry, including the prevention and mitigation of **forest fires**, and conservation of **biodiversity**.
 - Agreed to focus on cooperation on **waste management**.
 - As the efficient management of wastes including recovery of energy and secondary raw materials is crucial for resource conservation, healthy ecosystem and quality of life of the people.
 - **New Delhi Statement on Environment was Adopted:**
 - It is aimed at **furthering the spirit of Cooperation for Continuity, Consolidation and Consensus**

Note:



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in Environment among the BRICS Nations, especially ahead of the **COP15 Biodiversity meet** and **COP26 (Climate Change)** later this year.

○ **BRICS Resource Efficiency and Circular Economy Dialogue:**

- India has launched this initiative to facilitate an exchange of knowledge and best practices on waste management, resource efficiency and circular economy.
- The countries will also engage in dialogues on construction, agriculture, solar, **biofuels**, packaging, **electronic wastes**, food, water and textiles.

○ **India's Stand:**

- Acknowledged that the **Climate Change 2021 Report: IPCC** may be the **last signal for taking concrete collective global actions** against global environmental and climate challenges.
- Actions should be guided by **equity, national priorities and circumstances**, and the principles of **"Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)"**.
 - CBDR-RC is a principle within the **United Nations Framework Convention on Climate Change (UNFCCC)** that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.

➤ **11th Meeting of Agriculture Ministers of BRICS:**

○ **Theme:**

- BRICS Partnership for Strengthening Agro Biodiversity for Food and Nutrition Security.

○ **BRICS Agricultural Research Platform:**

- It has been **set up in India** for strengthening the cooperation in the field of agricultural research & innovations amongst the BRICS member States.
 - It has been **developed by India**.
- The platform as a **global platform for science-led agriculture** will help in addressing the issues of world hunger, undernutrition, poverty and inequality by promoting sustainable agricultural development through strategic cooperation in agriculture and allied sectors.

○ **Action Plan of 2021-24 for Agricultural Cooperation Adopted:**

- Focuses on the themes of food security, welfare of farmers, conservation of agrobiodiversity, resilience of food and agricultural production systems, promotion of digital agricultural solutions etc.

○ **India's Stand:**

- Highlighted its efforts in **preserving the agrobiodiversity** by :
 - Establishing and maintaining the **National Gene banks** for plants, animals, fish, insects and agriculturally important microorganisms at different respective Bureaus.
 - Actively promoting the **diversification of its agri-food systems** through countrywide programs such as pulses, oilseeds, horticultural crops, **National Bamboo Mission** and the recently launched **National Palm Oil Mission**.
- The **objective of these programs** is to increase the income of the farmers along with providing diversification in both farm and plate.

KAZIND-21

The 5th edition of India-Kazakhstan Joint Training Exercise, "KAZIND-21" will be conducted in Kazakhstan.

Key Points

➤ **About KAZIND-21:**

- The exercise is a **joint training between both the Armies**.
- The **scope** of Joint Exercise includes professional exchange, sharing experiences in Counter Insurgency/ Counter Terrorism operations, etc.

➤ **Joint Military Exercise: Prabal dostyk.**

➤ **Importance of Kazakhstan:**

- First, its **geo-strategic location**; second, its **economic potential**, especially in **terms of energy resources**; and third, its **multi-ethnic and secular structure**.
- Kazakhstan is the **most resource-rich country in Central Asia** and is also **India's largest trade and investment partner**.
- India and Kazakhstan actively cooperate under the aegis of various multilateral fora including **Confidence-Building Measures in Asia (CICA)**, **Shanghai Cooperation Operation (SCO)** and the **United Nations (UN)** organisations.

Note:



drishti



UNITE Aware Platform

Why in News

India, in collaboration with the **United Nations (UN)**, has launched a technology platform to ensure the safety and security of peacekeepers who are operating across the world.

- The launch of the UNITE AWARE platform came as India assumed the **Presidency of the 15-nation UN Security Council** for the month of August.

Key Points

- **About the UNITE Aware:**
 - **Aim:** This project aims to demonstrate the impact of **modern surveillance technology** on the **detection of asymmetric threats**.
 - **Situational Awareness Software Programme:** It utilises modern surveillance technology for real time threat assessments to peacekeepers in maintaining security.
 - This will access live video and satellite imagery, and in very volatile circumstances can also deliver early warnings to peacekeepers.
 - It can also record data on critical incidents and events and follow daily operational activities.
 - Using the platform, the entire peacekeeping operation can be visualised, coordinated, and monitored on a real time basis.
 - **Partnership:** India has developed the technology platform in partnership with the **UN Department of Peacekeeping Operations** and the **Department of Operational Support**.
 - **Deployment:** The platform will be deployed initially in four UN Peacekeeping Missions: **MINUSMA (Mali)**, **UNMISS (South Sudan)**, **UNFICYP (Cyprus)** and **AMISOM (Somalia)**.

- **India's Contribution:** India has contributed USD 1.64 million for this project.
- **UN Peacekeeping:**
 - **Joint Effort:** It is a joint effort between the **Department of Peace Operations** and the **Department of Operational Support**.
 - It deploys troops and police from around the world, integrating them with civilian peacekeepers to address a range of mandates set by the **UN Security Council (UNSC)** and the **General Assembly**.
 - It helps countries navigate the difficult path from conflict to peace.
 - **Financial Contribution:** The **financial resources of UN Peacekeeping operations** are the collective responsibility of UN Member States.
 - **Legal Obligation:** According to the UN Charter, every **Member State is legally obligated** to pay their respective share for peacekeeping.
 - **India's Contribution:**
 - India is a major contributing nation to UN peacekeeping activities.
 - Currently, there are 5506 troops and police from India who have been deployed to nine different UN peacekeeping missions, the second highest amongst troop-contributing countries.
 - More than 200,000 Indians have served in 49 of the 71 UN peacekeeping missions established around the world since 1948.
 - India has a long tradition of sending **women on UN peacekeeping missions**.
 - In 2007, India became the first country to deploy an all-women contingent to a UN peacekeeping mission.

IBSA Forum

Why in News

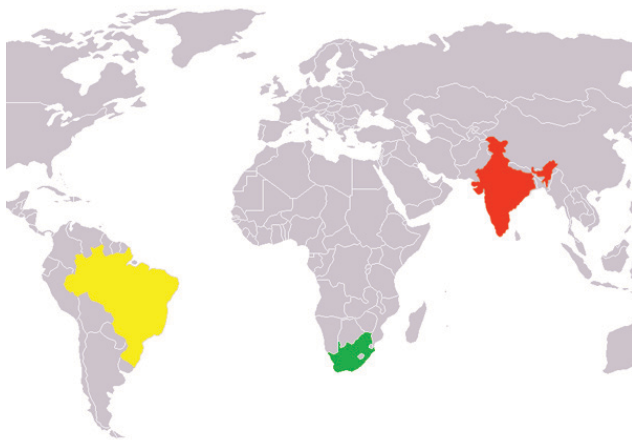
Recently, India organized the **IBSA (India, Brazil and South Africa)** Tourism Ministers' virtual meeting.

- **India is the current IBSA Chair.**

Key Points

- **About:**

Note:



- The IBSA is a **trilateral, developmental initiative** between **India, Brazil and South Africa** to **promote South-South cooperation and exchange**.
- The idea of South-South Cooperation (SSC) is not new. Its genesis can be traced back to the decades of efforts by countries and groupings working together to ensure South-South solidarity such as **Bandung conference 1955, Non-Aligned Movement 1961, G77 grouping, UNCTAD, the Buenos Aires Plan of Action 1978, and the 2009 Nairobi declaration**.
- **Formation:**
 - The grouping was formalized and named the **IBSA Dialogue Forum** when the **Foreign Ministers of the three countries** met in Brasilia (Brazil) on **6th June 2003** and issued the **Brasilia Declaration**.
- **Headquarters:**
 - IBSA **does not** have a **headquarters or a permanent executive secretariat**.
 - At the highest level, it counts on the **Summits of Heads of State and Government**.
 - So far Five IBSA Leadership Summits have been held. The 5th IBSA Summit was held in Pretoria (South Africa) in 2011. The 6th IBSA Summit is to be hosted by India.
- **Joint Naval Exercise:**
 - **IBSAMAR (IBSA Maritime Exercise)** is an important part of IBSA trilateral defence cooperation.
 - Six editions of IBSAMAR have been held so far, the latest one being off the coast of South Africa in October, 2018.
- **IBSA Fund:**
 - **Established in 2004, IBSA Fund (India, Brazil and South Africa Facility for Poverty and Hunger**

Alleviation) is a unique Fund through which development projects are executed with IBSA funding in fellow developing countries.

- The fund is **managed by the United Nations (UN) Office for South-South Cooperation (UNOSSC)**. Each IBSA member country is **required to contribute \$1 million per annum** to the fund.
- **Objectives:**
 - To **alleviate poverty and hunger** in nations of the South;
 - To **develop best practices in the fight against poverty and hunger** by facilitating the execution of replicable and scalable projects in interested countries of the global south;
 - To pioneer and lead by example the **South-South cooperation agenda**;
 - To **build new partnerships** for development.
- **IBSA Fellowship Programme:**
 - It focuses on **multilateral institutional frameworks** to coordinate, support and **enable sustainable development globally**; joint research for cooperation and exchange of information in the fields of macro-economy, trade and development; and any other area as may be found of interest within the IBSA framework.
- **Opportunities:**
 - **In the Emergence of BRICS:**
 - Working collectively towards ensuring the **MERCOSUR-SACU-India Trilateral PTA (Preferential trade Agreement)** first, and eventually a Free Trade Area (FTA), will go a long way in ensuring the grouping's relevance. (**MERCOSUR for Brazil & SACU for South Africa**).
 - The **Southern Common Market (MERCOSUR for its Spanish initials)** is a regional integration process, initially established by Argentina, Brazil, Paraguay, and Uruguay, and subsequently joined by Venezuela and Bolivia.
 - The **Southern African Customs Union (SACU)** consists of Botswana, Lesotho, Namibia, South Africa, and Swaziland. The **SACU Secretariat is located in Namibia**. SACU was established in 1910, making it the **world's oldest Customs Union**.
 - The grouping must work together as a **joint lobby in other groupings** of which they are members of, such as **BRICS and G20**.

Note:

- **Reforming Multilateral Institutions:**
 - Reforming institutions such as the **United Nations Security Council (UNSC)**, **IMF** etc. is a **necessary prerequisite** to forge consensus behind the principle of economic development among developing countries.
 - **India, Brazil and South Africa** have **serious aspirations to become permanent members of UNSC**.

Taliban Controls Kabul

Why in News

Recently, the **Taliban** has seized Kabul, the capital city of Afghanistan, raising questions over the US and **NATO (North Atlantic Treaty Organization)** trained Afghan Forces.

- The Taliban have proclaimed that there will be no witch hunt, that it will respect a transitional process, and that it will work for a **future Islamic system** that is acceptable to all.

Taliban

- The Taliban, or students in the Pashto language, emerged in the early 1990s in northern Pakistan **following the withdrawal of Soviet troops from Afghanistan**.
- It is an **Islamic fundamentalist political and military organisation** operating in Afghanistan. They have dominated Afghan polity for quite some time and feature regularly in international affairs.
- The Taliban have been fighting against the U.S.-backed government in Kabul for around 20 years. They **seek to reimpose their strict version of Islam in Afghanistan**.



Key Points

- **Background:**
 - **Terrorist Attack:**
 - On 11th September 2001, terrorist attacks in America killed nearly 3,000 people.
 - So, a month after 9/11, the US launched airstrikes against Afghanistan (**Operation Enduring Freedom**).
 - **Transitional Government in Afghanistan:**
 - After the attacks, the **NATO** coalition troops declared war on Afghanistan. The US dislodged the Taliban regime and **established a transitional government in Afghanistan**.
 - The US had reached the conclusion long ago that the **war was unwinnable and approached for peace talks**.
 - **Peace Talks:**
 - **Murree Talks:**
 - In 2015 the US had sent a representative to the **first-ever meeting between the Taliban and the Afghan government** that was hosted by Pakistan in Murree in 2015.
 - 1. However, the **Murree talks did not progress**.
 - **Doha Talks:**
 - In 2020, before the **Doha Talks** started, the Taliban had maintained that they would hold direct talks only with the US, and not with the **Kabul government, which they did not recognise**.
 - In the agreement, the **US administration promised that it would withdraw all American troops from Afghanistan by 1st May, 2021**.
 - 1. The deadline has been pushed to 11th September 2021.
 - 2. This **provided the Taliban a sense of victory** and demoralised the Afghan troops.
 - The Taliban promised to **reduce violence, join intra-Afghan peace talks and cut all ties with foreign terrorist groups**.
 - **US Exit:**
 - By July 2021, the US claimed that it had withdrawn 90% of the troops and Taliban claimed that it had controlled over 85% of the Afghan Territory.
- **Current Scenario:**

Note:

- Taliban has seized Kabul and Many ministers along with the former President have fled the country.
 - This is the **first time since their ouster 20 years ago in the wake of the 9/11 strikes that Taliban fighters have entered the city** — they first seized the Capital in 1996.
- Among the cities that fell is Jalalabad in the east, and many evacuation missions are set in motion.
- **Cause of Capitulation:**
 - **US' Unconditional Exit:**
 - The US **decision to pull out its troops unconditionally without waiting for a negotiated political settlement regardless** of consequences that were almost entirely predictable other than the speed with which it occurred.
 - **Afghan's Psychological Denial:**
 - Afghan's psychological denial that the US would indeed leave as they warned, a **lack of military strategy, poor supplies and logistics, indefensible and thinly manned posts, unpaid salaries, phantom rolls**, and a sense of betrayal, abandonment and demoralisation, all played a role in the capitulation
 - The Afghan had technical dependence on the US for **air support, weapon systems, intelligence etc.**
 - **Lack of Preparation:**
 - The **Afghan Army was unprepared and caught by surprise** by the Taliban offensive.
 - **Lack of Training of Afghan Forces:**
 - The **Afghan National Army (ANA) was never really trained and equipped with the normal attributes of a national army** capable of defending territory with adequate mobility, artillery, armour, engineering, logistics, intelligence, air support etc for rugged terrain; and infantry battalions and doctrines designed for it.
- **Role of US in Current Situation:**
 - **Invested on the War on Terror:**
 - Most of the US' effort went into grooming **Special Forces units meant to recover targets of urban terrorist attacks**, at which they acquitted themselves admirably, but not offensive operations.
 - In sum, they **invested just enough for the war on terror, but not the defence of Afghanistan** although it was perfectly aware of the connection

between the two in the Pakistani role in nurturing the Taliban.

- **No Strategic Importance:**
 - After the end of the Soviet intervention and the fall of the Soviet Union, the **US has never really considered Afghanistan of strategic importance.**
- **No attempt to integrate the economic sphere:**
 - For all its USD 1 trillion investment in Afghanistan and its awareness of Afghanistan's mineral wealth, the **US never really invested in the Afghan economy or attempt to integrate it** to its economic sphere of influence (including India) as it did after its interventions after **World War II** in Europe, East Asia and later in the oil economies of the Gulf.
- **Implications for India:**
 - **Securing Indians:**
 - The first concern is for **Indian diplomats, personnel and citizens** based in Afghanistan.
 - **Strategic Concern:**
 - The Taliban's control will also mean a **bigger hand for the Pakistani military and intelligence agencies** to influence outcomes for the country, which will mandate a much smaller role for Indian development and infrastructure work that has won it goodwill over the past 20 years.
 - **Threat of radicalisation:**
 - There is the **threat of growing radicalisation and space for pan-Islamic terror groups** in India's neighbourhood.

India-Philippine Maritime Exercise

Why in News

Recently, the **Indian Navy carried out a Maritime Partnership Exercise with the Philippine Navy** in the West Philippine Sea.

- Earlier **Indo-UK Naval Exercise, 'Konkan 2021'** was held in the English Channel.

Key Points

- It will strengthen bilateral collaboration in the maritime domain towards a collective aim of ensuring a stable, peaceful and prosperous **Indo-Pacific**.

Note:



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- This is in a series of exercises that India is conducting with littoral nations that share their maritime boundaries with China as part of its deployment.
- Indian naval ships INS Ranvijay and INS Kora are currently deployed to the Western Pacific with an aim to strengthen maritime security collaboration with partner nations.
 - The **Quad countries** - India, the US, Australia and Japan - will conduct the next edition of the **Malabar naval exercise** off the coast of Guam in the face of China's growing military muscle-flexing in the Indo-Pacific.
 - China claims sovereignty over all of the **South China Sea** (arm of the Western Pacific Ocean) a huge source of hydrocarbons. However, several **ASEAN Association of Southeast Asian Nations** member countries, including Vietnam, the Philippines and Brunei, have counterclaims.

Delisting Taliban from Sanctions: UN

Why in News

Recently, the **United Nations (UN)** officials claimed that there are no requests from the **UN Security Council** Permanent members for the delisting of the **Taliban's** top leadership from sanctions thus far.

- They also **refuted reports** that the next meeting of the **Taliban Sanctions Committee also known as the resolution 1988 committee**, due in September 2021, would **lift restrictions on designated terrorists** like Sirajuddin Haqqani and Mullah Baradar.

Key Points

- **Resolution 1988 Committee Meeting:**
 - **India's Permanent Representative to the UN (UNPR)** is the **Chairman** of the committee until

December 2021, and is **key to deciding the date of the meetings, and scrutinising requests** to delist the Taliban leaders.

- The **meeting is expected to happen ahead of an important meeting to discuss the renewal of the mandate of the UN Assistance Mission in Afghanistan (UNAMA)**, which expires in September 2021.
- A decision is likely to be taken on whether to **extend the special travel exemptions given to 14 Taliban members to participate in the "peace and reconciliation efforts"**.
- The meeting could also **discuss whether to include other Taliban leaders in the exemptions**, giving them permission to travel and access some funds, which are frozen at the moment.
- **Significance of the Meeting:**
 - This is the **first time the Committees would meet after the Taliban takeover of Kabul**, and after the deadline for the US troops to pull-out.
 - The stand taken by the UNSC members, particularly the **P-5 — US, Russia, China, France and UK** — would indicate how they **intend to approach a future Taliban-led regime in Afghanistan**.
 - This time around, the **UN would have to decide on continuing the accreditation with Ambassador Ghulam Isaczai who was appointed by the 'Islamic Republic of Afghanistan'**, given the Taliban control of Kabul, and its insistence on changing the country's flag, and name to the 'Islamic Emirate of Afghanistan'.
 - In **1996**, the last time the Taliban took power in Kabul, the **UN had refused to recognise the regime**, and had continued the Ambassador nominated by the previous Rabbani government.
- **Challenges:**
 - The **challenge will be to reconcile the ground reality of a Taliban dominated regime with a new mandate for UNAMA**.
 - If the UN were to accept the new regime, which seems unlikely at present, **it would give the Taliban the mandate to propose the delisting of its own members**, as the Afghanistan UNPR is the "focal point" for the Sanctions list.
 - Such a proposal would also run counter to the UN Security Council's own statement in August 2021 that firmly said that **members "do not support the restoration of the Islamic Emirate"**.

Note:

➤ **Importance of Sanctions for India:**

- The **reports concerning Sirajuddin Haqqani are significant for India** as he and the Haqqani group, founded by his father Jalaluddin Haqqani, are **wanted for the Indian Embassy bombings in Kabul in 2008 and 2009.**
- In November 2012, **India was instrumental**, as the then-President of the UN Security Council, in **ensuring that the Haqqani group was designated as a terror entity.**
- India had **worked with several countries to ensure the group was banned**, both in the UN's 1988 sanctions committee list as well as the US, which designated it a Foreign Terrorist Organisation at the same time.
 - **Sirajuddin Haqqani**, deputy to Taliban chief Haibatullah Akhundzada, is now likely to have considerable influence in the next government in Afghanistan.
 - His brother **Anas Haqqani**, who was arrested in 2014 for financing the group's terror attacks, and was released as part of a hostage swap in 2019 from Bagram prison, is now one of the chief negotiators in government formation talks in Kabul.

**Resolution 1988 Committee/
Taliban Sanctions Committee**

➤ **Background:**

- In 1999, the **UNSC Committee was established pursuant to Resolution 1267 (1999)**, which **imposed a limited air embargo and asset freeze on the Taliban.** Over time, measures became a targeted asset freeze, travel ban and arms embargo against designated individuals and entities.
- In June 2011, **after the adoption of resolution 1988 (2011)**, the Committee split into two.
 - The **1267 Committee was henceforth known as the Al-Qaida Sanctions Committee**, mandated to oversee implementation of the measures against individuals and entities associated with Al-Qaida.
 - A separate Committee was established pursuant to **resolution 1988 (2011)** to oversee implementation of the measures against individuals and entities associated with the Taliban.

➤ **About:**

- The Committee comprises all **15 members of the Security Council** and makes its **decision by consensus.** The current Chair of the Committee, for the period ending 31st December 2021, is India.
- The work of the Committee is **supported by the Analytical Support and Sanctions Monitoring Team** pursuant to resolutions 1526 (2004) and 2253 (2015) concerning ISIL (Da'esh), Al-Qaida and the Taliban and associated individuals and entities.

➤ **Mandate:**

- Oversee the implementation of the **sanctions measures.**
- **Designate individuals and entities** who meet the listing criteria as contained in the relevant resolutions.
- Consider and **decide upon notifications and requests for exemptions** from the sanctions measures.
- Consider and **decide upon requests to remove a name** from the 1988 Sanctions List.
- Conduct **periodic and specialised reviews** of the entries on the 1988 Sanctions List.
- **Examine the reports** presented by the Monitoring Team.
- **Report periodically to the Security Council** on the implementation of the sanctions measures.

India-Netherlands Relations

Why in News

Recently, India and Netherlands reviewed bilateral cooperation in Science and Technology and Innovation.

Key Points

➤ **Highlights of the Meeting:**

- India **emphasized that the trinity of Health, Agriculture and Water** are bedrock of close mutual collaboration between the two nations.
- Netherlands proposed to work together in the area of **Green Hydrogen** and **ocean sciences.**
- Both countries agreed to support joint research and development regarding **Smart Energy Grids, Big Data** and **Internet of Things.**

Note:



- India invited Netherlands for exchanges in the Space sector particularly in the wake of path-breaking reforms initiated by India in the recent past **allowing the private sector to have a level playing field** in satellite launches and space based activities.
- Both countries also flagged future collaboration in **Solar Energy, Gas-based installations, Cyber Security, Data Science, Urban Water System and emerging areas**, which will create jobs for people in India.
- **Climate Change** as a key area of concern for the entire World was also highlighted.

Note:

- The Government of India, on the occasion of Independence day, announced the **National Hydrogen Mission** to make India a Global Hub for Green Hydrogen Production and Export.
- Also, the **Ministry of Earth Sciences** has recently launched the **Deep Ocean Mission**, with a view to explore the deep ocean for resources and develop deep-sea technologies for sustainable use of ocean resources.

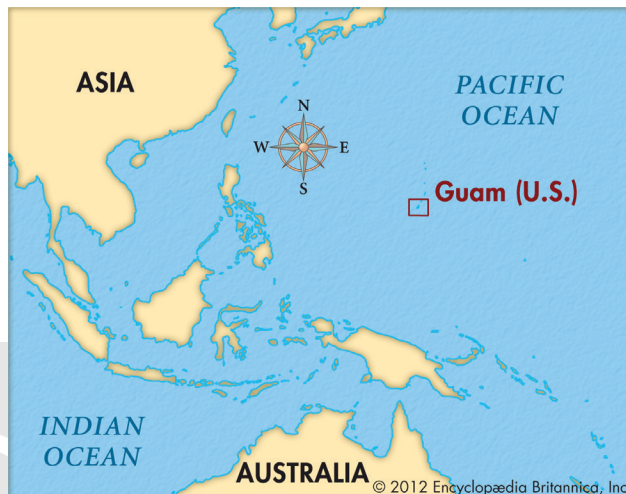
Malabar Exercise 2021

Why in News

Recently, the Navies of the **Quad (Quadrilateral Framework) Nations** (India, the United States, Japan, and

Australia) have participated in the **25th edition of the Malabar Exercise**, which began off the coast of Guam in the Pacific Ocean.

- **Guam** is a US island territory in the North Pacific Ocean, which is much **closer to China in the East than to the US mainland in the West** making it an ideal US military strategic outpost for Indo-Pacific operations.



Key Points

- **Malabar Exercise:**
 - It is a **multilateral war-gaming naval exercise** that was started in 1992. It began as a **bilateral exercise between the navies of India and the United States**.
 - Two more editions of the exercise were carried out in **1995 and 1996**, after which there was a **break until 2002** in the aftermath of India's nuclear tests.
 - **From 2002 onward**, the exercise has been conducted every year.
 - Japan and Australia first participated in **2007**, and **since 2014**, India, the US and Japan have participated in the exercise every year.
 - In 2020 **Australia joined the Malabar Exercise** on India's request in order to contain China in the Indo-Pacific region.
 - For the first time in over a decade, **Malabar 2020** saw the participation of all four Quad members.
 - It is aimed **to support free, open and inclusive Indo-Pacific and remain committed to a rules based international order**.
- **Malabar 2021:**
 - This is the **first joint maritime exercise within**

Note:

the framework of Quad in the Western Pacific and apparently aims to frighten China. It is being hosted by the US.

➤ **Significance:**

○ **Enhance Strategic Partnership:**

- Such complex exercises have further **enhanced synergy and mutual understanding among the four navies in undertaking joint maritime security operations**, and will go a long way in further strengthening their already close strategic partnership.

○ **Sustainable Indo-Pacific Coalition:**

- A major step towards building a **sustainable Indo-Pacific coalition thereby addressing the massive strategic imbalance** generated by an economically and militarily powerful China.
 - There is a **consensus, among many major liberal democracies, that China threatens the international system**, liberal societies and a rules-based regime.

○ **Peace through Sea:**

- It is not a coincidence that as **India-US ties improved in the mid-2000s, China was better behaved**.
- It is only **with economic strength and partnerships** such as the one that will be manifested in the Malabar exercise that **India can broaden its options with China**.
 - The road to peace in the mountains may lie through the sea.

➤ **Other Exercises with Quad Countries:**

- **India- Japan:** **JIMEX** (naval exercise), **SHINYUU Maitri** (air force exercise), and **Dharma Guardian** (military exercise).
- **India-US:** Yudha Abhyas (Army), Vajra Prahar (Military), Spitting Cobra, SANGAM, RED FLAG, COPE INDIA.
- **India-Australia:** **AUSINDEX** (Maritime), AUSTRA HIND, Pitch Black
- **Passage Exercises (PASSEX).**

Quad

- It is a **four-nation alliance of India, Australia, USA and Japan** which was **established in 2007**.
 - The idea of Quad was first mooted by former Japanese Prime Minister Shinzo Abe.

- It is often dubbed as an **“Asian” or “mini” North Atlantic Treaty Organization (NATO)**, and is viewed as a **counterbalance to China’s military and economic clout** in the Indo-Pacific region.
- Interestingly, the QUAD, which used to be known as the quadrilateral security dialogue, is **now known as the quadrilateral framework** to indicate it has gone beyond a narrow security dialogue.

China's Interests in Afghanistan

Why in News

Recently, following the **withdrawal of US forces from Afghanistan**, China has emerged as one of the first nations to develop diplomatic channels with the **Taliban**. This engagement emanates from **China’s economic and security interest in Afghanistan**.

Key Points

➤ **About China’s Economic Interest in Afghanistan:**

- **Reserves of Lithium:** Afghanistan is probably home to what may be the world’s **largest reserves of lithium**.
 - Lithium is the **key ingredient of the large-capacity lithium-ion batteries** that are widely used in electric vehicles and the renewable energy industry.
 - China dominates **Lithium-Ion Battery Production worldwide** and it may seek long-term a contract



Note:

with the Taliban to develop **Afghanistan's massive untapped lithium reserves** in return for mining rights and ownership arrangements.

○ **Mineral Deposits:** Afghanistan is sitting on **mineral deposits estimated to be worth up to \$3 trillion**.

- Afghanistan is rich in several resources such as gold, oil, bauxite, rare earths, chromium, copper, natural gas, uranium, coal, iron ore, lead, zinc, gemstones, talc, sulphur, travertine, gypsum and marble.

○ **China's Belt and Road Initiative:** China's strategic **Belt-and-Road Initiative** (BRI) could get more reach if it is able to extend the initiative from Pakistan to Afghanistan, with a **Peshawar-to-Kabul motorway**.

- This would create a much shorter land route for faster and convenient access to markets in the Middle East for Chinese goods.

➤ **About China's Security Interest in Afghanistan:**

- According to the **UN security council**, the **East Turkestan Islamic Movement** (ETIM) had roots in Afghanistan as it received support from the Taliban and Al Qaeda in the 2000s.

- ETIM is an **Uyghur Islamic extremist organisation** founded in Western China with the aim to establish an independent state called **East Turkestan in the place of Xinjiang**.

- Thus, ETIM poses a direct threat to **China's national security and territorial integrity**.

- China is worried that Afghanistan could become a **potential haven for the Uyghur extremist group**, which could retaliate against the widespread repression of Uyghurs.

➤ **Impact of China-Taliban Engagement on India:**

- A new route of BRI through Kabul would render **India's reluctance to join BRI less consequential**.
- With China-Taliban engagement, there can be formation of a new regional **geopolitical axis between China-Pakistan-Taliban**, which may go against the interests of India.
- China's stronghold in Afghanistan will also hamper connectivity projects to Central Asia via Afghanistan. For example, **Chabahar Port, International North South Transport Corridor (INSTC), TAPI Pipeline**.

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Note:

Science and Technology

Highlights

- *Merger of Three Supermassive Black Holes*
- *Human Trials for New HIV Vaccine*
- *Nano-Robots*
- *Fusion Ignition*
- *National Gene Bank*
- *Delta Variant Sub-lineage AY.12*
- *Chikungunya Vaccine*

Merger of Three Supermassive Black Holes

Why in News

Recently, the **Department of Science and Technology** reported that Indian scientists have discovered the **merger of three supermassive black holes** from as many galaxies to form a triple **Active Galactic Nucleus**.

- Many **Active Galactic Nuclei (AGN)** pairs have been detected in the past, but **triple AGN are extremely rare**, and only a handful has been detected before using X-ray observations.

Key Points

- **Current Merger:**
 - Scientists were studying the **AGN** in the two massive barred spiral galaxies **NGC7733** and **NGC7734** when they **detected unusual emissions from the centre of the latter and a curious movement of a large bright clump within it**, having a different velocity than that of **NGC7733**.
 - As the third one was a separate galaxy, the scientists named it **NGC7733N**.
 - All **three merging black holes were part of galaxies in the Toucan constellation**.
 - **Toucan Constellation:** It is **located in the southern hemisphere of the sky**. It is visible at latitudes south of 15 degrees between August and October. It is completely below the horizon for anyone north of 30 degrees. **It is a small constellation**, occupying an area of 295 square degrees. This **ranks it 48th in size among the 88 constellations** in the night sky.

- They are quite far away when compared to the nearest galactic neighbour – the **Andromeda galaxy is 2.5 million light years away**.

➤ Active Galactic Nuclei:

- There are **supermassive blackholes, which are several million solar masses in size**, at the centres of galaxies, and these are known as AGN.
- At the center of most galaxies, there's a massive black hole with a **huge mass accumulating gas, dust, and stellar debris around it**. AGN is formed when the gravitational energy of these materials, **being pulled towards the black hole, is converted into light**.
 - Since they "accrete" matter, **they often have a glow around them** which can be observed using light spectroscopy.

➤ Collision of Galaxies:

- If two galaxies collide, **their black hole will also come closer by transferring the kinetic energy to the surrounding gas**.
- The **distance between the blackholes decreases** with time until the separation is around a parsec (3.26 light-years).
- The **two black holes are then unable to lose any further kinetic energy** to get even closer and merge. This is known as the **final parsec problem**.

➤ Significance of the Finding:

- The presence of a third black hole **can solve the final parsec problem**. The **two galaxies can come closer** when another black hole or a star passes by and takes away some of their combined angular momentum.
- The finding shows that multiple accreting black holes [AGN] may be more common in our universe

Note:

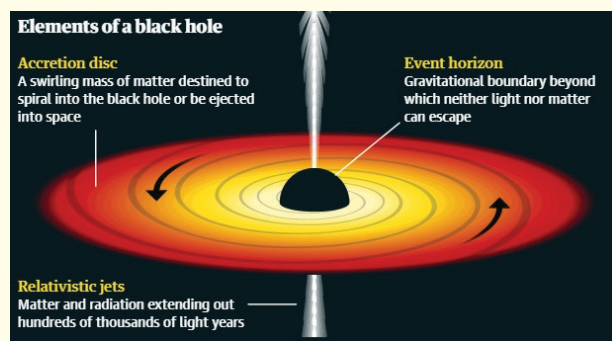


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and especially common in galaxy groups. So the **growth of black holes may be driven by such mergers in groups.**

Black Hole

- It refers to a point in space where the **matter is so compressed** as to create a gravity field from which even **light cannot escape**.
- The **concept was theorized by Albert Einstein in 1915** and the term 'black hole' was coined in the mid-1960s by American physicist John Archibald Wheeler.
- Usually, the black holes **belong to two categories**:
 - One category **ranges between a few solar masses and tens of solar masses**. These are thought to form when massive stars die.
 - The other category is of **supermassive black holes**. These **range from hundreds of thousands to billions of times that of the sun** from the Solar system to which Earth belongs.
- In April 2019, the scientists at the **Event Horizon Telescope Project** released the **first-ever image of a Black Hole** (more precisely, of its shadow).
- **Gravitational waves** are created when two black holes orbit each other and merge.



Human Trials for New HIV Vaccine

Why in News

Moderna, the Massachusetts-based American biotechnology company, will begin **human trials** for its novel **mRNA vaccine (mRNA-1644) for HIV (Human Immunodeficiency Virus)**.

- This is the **first trial for an mRNA vaccine for HIV** after the success of **mRNA vaccines with Covid-19**.

- According to the **World Health Organization**, there were around **37.7 million living with HIV as of 2020**.

Key Points

➤ mRNA Vaccine vs Traditional Vaccines:

- Vaccines work by training the body to recognise and respond to the proteins produced by disease-causing organisms, such as a virus or bacteria.
- **Traditional vaccines are made up of small or inactivated doses of the whole disease-causing organism, or the proteins that it produces**, which are introduced into the body to provoke the immune system into mounting a response.
- **mRNA vaccines tricks the body into producing some of the viral proteins itself.**
 - They **work by using mRNA, or messenger RNA**, which is the molecule that essentially puts DNA instructions into action. Inside a cell, mRNA is used as a template to build a protein.

➤ mRNA vaccine for HIV:

- The vaccine is expected to work similar to the **Covid-19 vaccine** — by getting the **body's cells to produce the HIV virus' spike protein** triggering an immune response.
- The **larger purpose of stimulating the B cells** is to generate what are called **broadly neutralising antibodies (bnAbs)**, which are specialised blood proteins that attach to the surface proteins of HIV and disable them by accessing key but hard-to-reach regions on the virus.
 - **B-cells** fight bacteria and viruses by making Y-shaped proteins called antibodies, which are specific to each pathogen and are able to lock onto the surface of an invading cell and mark it for destruction by other immune cells.
- Over the last decade, there have been **advances in identifying new bnAbs from HIV-infected individuals** that were seen to target very specific sites in the outer envelope of the HIV.
- **Lab-based analysis and tests on animals** have improved the understanding of how the knowledge of these sites can be used to make immunogens.
 - An **immunogen** refers to a molecule that is capable of eliciting an immune response by an organism's immune system, whereas an **antigen** refers to a molecule that is capable of binding to the product of that immune response.

Note:

- So, an immunogen is necessarily an antigen, but an antigen may not necessarily be an immunogen.

➤ **Expected Benefits:**

- **RNA-based immunogens** are believed to be a promising alternative because they **do not involve the use of a live virus, can be made relatively easily, can be quickly deployed and safely administered.**

➤ **Challenges:**

- **Issue of Reach:**
 - The experience with the **Moderna and Pfizer vaccines shows**, getting **essential jabs to the regions** where they are most needed is the biggest stumbling block.
 - Of the people living with HIV, **over two-thirds are in Africa.** Any success in containing the HIV pandemic would mean drastically cutting the rates of transmission there.
- **Sensitive to Temperature:**
 - **m-RNA vaccines are sensitive to temperature in storage**, and is a challenge for developing countries.
- **Mutation of HIV:**

HIV (Human Immunodeficiency Virus)

- **HIV attacks CD4, a type of White Blood Cell (T cells)** in the body's immune system.
 - T cells are those cells that move around the body detecting anomalies and infections in cells.
- After entering the body, **HIV multiplies itself and destroys CD4 cells**, thus severely **damaging the human immune system.** Once this virus enters the body, it can never be removed.
- The CD4 count of a person infected with HIV reduces significantly. In a healthy body, CD4 count is between 500- 1600, but in an infected body, it can go as low as 200.
- Weak immune system makes a person prone to opportunistic infections and cancer. It becomes difficult for a person infected with this virus to recover from even a minor injury or sickness.
- By receiving treatment, severe forms of HIV can be prevented.
- **Related Initiatives: The HIV & AIDS Prevention and Control Act, 2017, Project Sunrise, 90-90-90, The Red Ribbon, Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM).**

- **HIV has mutated into several variants** and is an insidious virus, and it will be many years before definitive proof of the success of the m-RNA approach can be established.

Nano-Robots

Why in News

Recently, a group of scientists has found a way to **tackle issues pertaining to root canal treatments (dental procedures)** using nanosized robots.

- Root canal treatment is **designed to eliminate bacteria from the infected root canal**, prevent reinfection of the tooth and save the natural tooth.

Key Points

➤ **About the Research:**

- A **significant percentage of root canal treatments fail**, because the **procedure leaves out some bacteria** that are located deep within the dentinal tubules.
- In the research the scientist has found a way to **tackle this using nanosized robots** that will travel through the tubules and target the bacteria.
- Under this method, **spiral silica nanobots** with a bit of iron embedded in them are injected in the central canal of the tooth. Then a **rotating magnetic field** is applied. This causes the **nanorobot to move - like screws move into a wall.**
- Once the bacterial colony is reached, the **nanorobot can deploy various antibacterial strategies** one of which is localised heating.

➤ **Nanorobots:**

- Nanorobotics describes the **technology of producing machines or robots at the nanoscale.**
 - **'Nanobot'** is an informal term to refer to engineered nano machines.
- Nanobots are robots that carry out a very specific function and are **~50–100 nm wide.**
- They can be used **very effectively for drug delivery.**
 - Normally, drugs work through the entire body before they reach the disease-affected area.
 - Using nanotechnology, the drug can be **targeted to a precise location** which would make the **drug much more effective** and **reduce the chances of possible side effects.**

Note:



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➤ **Governmental Initiatives to Promote Nanotechnology:**

- **Nano Science and Technology Mission (NSTM):**
 - **NSTM**, launched in 2007, is an umbrella programme that aims to promote research and development in nanotechnology.
 - The objectives include the promotion of research, infrastructure development to support the research, development of nanotechnology, human resources, and international collaborations.
- **Nano Science and Technology Initiative (NSTI):**
 - It was set up by the Department of Science and Technology (DST) in 2001.
 - It aims to focus on issues related to infrastructure development, research and application programmes related to nanomaterials including drugs, drug delivery, gene targeting and DNA chips.

Fusion Ignition

Why in News

Recently, researchers at the **Lawrence Livermore National Laboratory** (which operates the National Ignition Facility in California, US) appeared to have **demonstrated "fusion ignition"** for the first time.

- This breakthrough has brought the world closer to the dream of **near-limitless clean energy through nuclear fusion**.

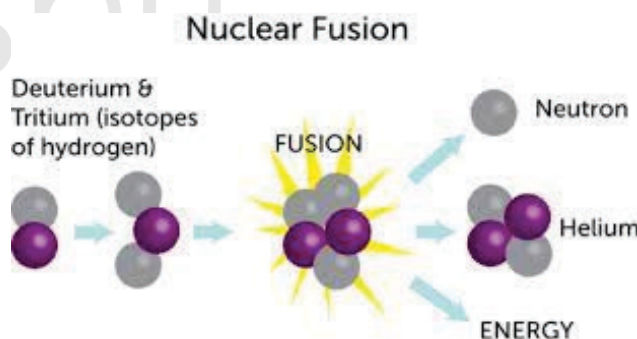
Key Points

- **About the Experiment:**
- They applied **laser energy** on fuel pellets to heat and pressurise them at conditions similar to that at the centre of our Sun.
 - This **triggered the fusion** reactions.
 - These reactions **released positively charged particles called alpha particles (helium)**, which in turn heated the surrounding plasma.
 - The heated plasma also released alpha particles and a **self-sustaining reaction called ignition took place**.
 - Ignition helps amplify the energy output from the nuclear fusion reaction and this could help provide clean energy for the future.
- **Significance of the Experiment:** Reproducing the conditions at the centre of the Sun will allow studying:

- **Plasma**, the state of matter that has never been created in the lab before.
- Gain **insights into quantum states of matter**.
- Conditions closer and closer to the **beginning of the Big Bang**.

➤ **About Nuclear Fusion:**

- Nuclear fusion is defined as the **combining of several small nuclei into one large nucleus** with the subsequent release of huge amounts of energy.
 - It is the **opposite reaction of fission**, where heavy isotopes are split apart.
- Harnessing fusion, **the process that powers the Sun**, could provide a limitless, clean energy source.
 - In the sun, the extreme pressure produced by its immense gravity creates the conditions for fusion to happen.
- Fusion reactions **take place in a state of matter called plasma**. Plasma is a hot, charged gas made of positive ions and free-moving electrons that has unique properties distinct from solids, liquids and gases.
 - At high temperatures, electrons are ripped from atom's nuclei and become a plasma or an ionised state of matter. Plasma is also known as the **fourth state of matter**.



➤ **Advantages of Nuclear Fusion:**

- **Abundant energy:** Fusing atoms together in a controlled way releases nearly four million times more energy than a chemical reaction such as the burning of coal, oil or gas and four times as much as nuclear fission reactions (at equal mass).
 - Fusion has the potential to provide the kind of baseload energy needed to provide electricity to the cities and the industries.

Note:

- **Sustainability:** Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium.
- **No CO₂:** Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere. Its major by-product is helium: an inert, non-toxic gas.
- **No long-lived radioactive waste:** Nuclear fusion reactors produce no high activity, long-lived nuclear waste.
- **Limited risk of proliferation:** Fusion doesn't employ fissile materials like uranium and plutonium (Radioactive tritium is neither a fissile nor a fissionable material).
- **No risk of meltdown:** It is difficult enough to reach and maintain the precise conditions necessary for fusion—if any disturbance occurs, the plasma cools within seconds and the reaction stops.
- **Other Related Initiatives:**
 - **International Thermonuclear Experimental Reactor (ITER) Assembly:** It aims to build the world's largest tokamak to prove the feasibility of fusion as a large-scale and carbon-free source of energy. The ITER members include China, the European Union, India, Japan, South Korea, Russia and the United States.
 - **China's Artificial Sun:** The Experimental Advanced Superconducting Tokamak (EAST) device designed by China replicates the nuclear fusion process carried out by the sun.

Nuclear Fusion vs Nuclear Fission

	Fission	Fusion
Definition	Fission is the splitting of a large atom into two or more smaller ones.	Fusion is the fusing of two or more lighter atoms into a larger one.
Occurrence	Fission reaction does not normally occur in nature.	Fusion occurs in stars, such as the sun.
Energy Requirement	Takes little energy to split two atoms in a fission reaction.	Extremely high energy is required to bring two or more protons.
Energy Released	The energy released by fission is a million times greater than that released in chemical reactions, but lower than the energy released by nuclear fusion.	The Energy released by fusion is three to four times greater than the energy released by fission.
Energy production	Fission is used in nuclear power plants.	Fusion is an experimental technology for producing power.

National Gene Bank

Why in News

Recently, the **Union Minister for Agriculture and Farmers Welfare** inaugurated the **world's second-largest refurbished state-of-the-art National Gene Bank** at the **National Bureau of Plant Genetic Resources (NBPGR)**.

- **Gene Banks** are a type of biorepository which preserve genetic material. A **collection of seed plants, tissue cultures etc.**
 - A gene is the **basic physical and functional unit of heredity**. Genes are made up of **Deoxyribonucleic Acid (DNA)**.

National Bureau of Plant Genetic Resources (NBPGR)

- It is a **nodal organisation for management of plant genetic resources** in India and functions under the control of **Indian Council of Agricultural Research (ICAR)**.
- It is **conserving seed germplasm** for long-term conservation (at -20°C) in its **National Genebank (NGB)**.
- It **plans, organizes, conducts and coordinates exploration and collection** of indigenous and exotic **plant genetic resources**. It is **headquartered in New Delhi** and has 10 regional stations.

Key Points

- **About:**
 - The **National Gene Bank** was established in the year 1996 to preserve the seeds of **Plant Genetic Resources (PGR)** for future generations, and has the capacity to preserve about one million germplasm in the form of seeds.
 - **Germplasm is living tissue** from which **new plants can be grown**.
 - **NBPGR** is meeting the **need of in-situ and ex-situ germplasm conservation** through Delhi Headquarters and 10 regional stations in the country.
 - **In situ and ex situ conservation focuses** on the **maintenance of species diversity** within or away from their natural habitats, respectively.
- **Significance:**
 - Presently, it is protecting **4.52 lakh accessions**, of which **2.7 lakh** are **Indian germplasm** and the rest have been imported from other countries.

Note:

- An **accession** is a **single, collected variety or varieties of a wild plant, a landrace or a plant variety** that has been produced by **selective breeding**, more commonly known as a **cultivar**.

➤ **Functioning:**

- The **NGB** has **four kinds of facilities**, namely, **Seed Genebank (-18°C)**, **Cryogenebank (-170°C to -196°C)**, **In vitro Genebank (25°C)** and **Field Genebank**, to cater to long-term as well as medium-term conservation.
- It stores different crop groups such as **cereals, millets, medicinal and aromatic plants and narcotics**, etc.

➤ **Other Facilities:**

- The **Svalbard Global Seed Vault** in Norway houses the **world's largest collection of seeds**.
- **India's seed vault** is at Chang La (Ladakh) in the Himalayas.
- **National Animal Gene Bank**, established at the National Bureau of Animal Genetic Resources (NBAGR - Karnal, Haryana), has the objective of conserving the indigenous livestock biodiversity.
 - NBAGR is one of the **Indian Council of Agricultural Research (ICAR)** institutes.

Delta Variant Sub-lineage AY.12

Why in News

According to a report by the **Indian SARS-CoV-2 Genomics Consortium (INSACOG)**, a new **sub-lineage AY.12** of the **Delta variant** of **Covid-19** that was recently classified in Israel is now being **reported in many parts of India**.

- INSACOG is a **multi-laboratory, multi-agency, Pan-India network** to monitor genomic variations in the SARS-CoV-2 by a sentinel sequencing effort.

Key Points

➤ **About:**

- INSACOG has pointed out that **several cases in India classified as Delta** are now being **reclassified as AY.12** and these numbers are under close watch.
 - The **reclassification is primarily to assist micro-epidemiology** and is **not based on acquisition**

of significant **mutations**. Thus, it is not currently known whether AY.12 is clinically different from Delta.

- While **no worrying factors have been found** linked to the **AY.12**, it has come on INSACOG's radar as it is said to be driving the **surge in Israel despite 60% vaccination in the country**.

➤ **Delta Variant:**

- B.1.617.2—also termed the **Delta variant**—is believed to **spread faster than other variants**. The Delta variant is **highly contagious, more than twice as contagious as previous variants**.
- It has birthed several sub-lineages called '**Delta plus**' variants that **bear most of its characteristic mutations** but are **different in other ways**.

➤ **Reason behind Delta Variant being more Infectious:**

- A key **amino acid mutation** may be behind the high infectivity of the Delta variant.
- A team of **researchers has zeroed in on a key mutation** that alters a **single amino acid in the SARS-CoV-2 spike protein**.
- The change is called **P681R** and **transforms a proline residue into an arginine**.
 - Arginine is a **chemical building block called an amino acid**.
 - Proline disrupts **protein secondary structure** by inhibiting the backbone to conform to an alpha-helix or beta-sheet conformation

Chikungunya Vaccine

Why in News

Recently, **International Vaccine Institute (IVI)** has announced that **Bharat Biotech's Chikungunya vaccine candidate (BBV87)** has entered into **Phase II and III clinical trials**. Currently, **there is no commercial chikungunya vaccine**.

Key Points

➤ **About the Vaccine:**

- BBV87 is an **inactivated virus vaccine**, similar to **Covaxin**.
 - Inactivated vaccines contain viruses whose genetic material has been destroyed by heat, chemicals or radiation so they cannot infect cells

Note:



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and replicate, but can still trigger an immune response.

- Inactivated virions technology has a **safety profile which potentially makes this vaccine accessible to special populations**, such as immune-compromised and pregnant women.
- Bharat Biotech's Chikungunya vaccine candidate was developed in partnership with the **International Vaccine Institute (IVI)**.
- Development of Chikungunya Vaccine is an initiative of the **United Nations Development Programme (UNDP)**, as part of the **Global Chikungunya Vaccine Clinical Development Program (GCCDP)**.
- It was funded by the **Coalition for Epidemic Preparedness Innovations (CEPI)** with support from the Ind-CEPI mission of the Department of Biotechnology, Government of India.

➤ **Chikungunya:**

- **About:**
 - Chikungunya is a **mosquito-borne viral disease** first described during an outbreak in southern Tanzania in 1952.
 - The name is derived from the **local Kimakonde language** and means "to become contorted", evoking the stooped appearance of patients suffering acute joint pain.
- **Transmission:**
 - It is **transmitted to people through the bite of an infected mosquito**.
 - It is most often spread to people by **Aedes aegypti** and **Aedes albopictus** mosquitoes.

These are the **same mosquitoes that transmit dengue virus**.

- Mosquitoes acquire the infection by biting infected humans or animals.
- Weather conditions also affect their breeding and survival.
- **Symptoms:**
 - Include severe joint pain, muscle pain, headache, nausea, fatigue and rashes.
- **Treatment:**
 - Currently, there are **no vaccines or antiviral drugs available to cure Chikungunya**, and the treatment is only focused on relieving the symptoms associated with the infection.
- **Reasons Behind the Spurt in Cases:** There has been an increasing incidence of vector borne diseases in urban, peri-urban and rural areas because of:
 - Haphazard **urbanisation**.
 - **Deficient water and solid waste management** leading to proliferation of mosquito breeding sites.
 - **Absence of specific antiviral drug** or vaccine.
- **Government Initiatives to Control Chikungunya:**
 - **National Vector Borne Disease Control Programme (NVBDCP)** is a comprehensive programme for prevention and control of **vector borne diseases namely Malaria, Filariasis, Kala-azar, Japanese Encephalitis (JE), Dengue and Chikungunya**.
 - It works under the **Ministry of Health and Family Welfare**.



Note:

Environment and Ecology

Highlights

- Rise in Heat Waves
- Hydropower Projects in Himalayas
- Shrinking of Sambhar Lake: Rajasthan
- Land Degradation and Desertification in India
- New Species of Cascade Frog: Arunachal Pradesh
- Leaded Petrol Eradicated Globally: UNEP
- Immune Cells in Sea Corals
- India Decides to Ratify the Kigali Amendment
- Sea Erosion in India
- Plastic Crisis: Sundarbans
- Children's Climate Risk Index: UNICEF
- Forum for Decarbonisation of Transport Sector
- Delhi's New Smog Tower
- Slender Loris
- New Algal Species: Andaman & Nicobar
- Corbett Tiger Reserve: Uttarakhand

Rise in Heat Waves

Why in News

According to a recent study, **more than 3,56,000 people died in 2019** as a result of extreme heat and that number is likely to grow in the future.

- Recent **heat waves** across the world have been alarming in terms of **global warming** and have been attributed to **climate change**.

Key Points

➤ Heat Waves:

- Heat wave is a **condition of air temperature which becomes fatal to the human body** when exposed.
- In India, heat waves typically occur **between March and June**, and in some rare cases even extend till July.
 - A heat wave is a **period of abnormally high temperatures**, more than the normal maximum temperature that occurs during the summer season in the North-Western and South Central parts of India.
- The **India Meteorological Department** requires that temperatures should reach at least 40°C in the plains and at least 30°C in the hilly regions, and should reflect an increase of at least 5°C-6°C above the normal temperature to be classified as a heatwave.

➤ Impact of Heat Waves:

- **Heat Strokes:** The very high temperatures or humid conditions pose an elevated risk of **heat stroke** or heat exhaustion.
 - Older people and people with chronic illness such as **heart disease, respiratory disease, and diabetes** are more susceptible to heatstroke, as the body's ability to regulate heat deteriorates with age.
- **Increased Healthcare Costs:** Effects from extreme heat are also associated with increased hospitalisations and emergency room visits, increased deaths from cardio-respiratory and other diseases, mental health issues, adverse pregnancy and birth outcomes, etc.
- **Lessens Workers' Productivity:** Extreme heat also lessens worker productivity, especially among the more than 1 billion workers who are exposed to high heat on a regular basis. These workers often report reduced work output due to heat stress.
- **Risk of Wildfires:** The **heat domes** act as fuel to **wildfires**, which destroys a lot of land area every year in countries like the US.
- **Prevents Cloud Formation:** The condition also prevents clouds from forming, **allowing for more radiation from the sun to hit the ground**.
- **Effect on Vegetation:** The trapping of heat can also damage crops, dry out vegetation and result in **droughts**.
- **Increased Energy Demands:** The sweltering heat wave also **leads to rise in energy demand**, especially electricity, leading to pushing up rates.

Note:

- **Power Related Issues:** Heat waves are often **high mortality disasters**.
 - Avoiding heat-related disasters depends on the resilience of the electrical grid, which can fail if electricity demand due to air conditioning use exceeds supply.
 - As a result, there is the **double risk of infrastructure failure and health impacts**.

➤ **Recommendations:**

- **Cooling Measures:**
 - Effective and environmentally sustainable cooling measures can protect from the worst health impacts of heat.
 - These range from increasing green space in cities, wall coatings that reflect heat from buildings, and widespread use of electric fans and other widely available personal cooling techniques.
- **Climate Change Mitigation:**
 - Climate change mitigation **to reduce carbon emissions** and alter the further warming of the planet can also help.
- **Effective Prevention Measures:**
 - Identifying timely and effective prevention and response measures, particularly for low-resource settings can help in mitigating the problem.

➤ **Initiatives Taken:**

- **Global:**
 - Global forums dealing with climate change issues—such as the **World Health Organization**, **World Economic Forum**, **First Global Forum on Heat and Health**, and the **Global Forum for Environment-OECD**—also focus on heat waves by investing in research on health risks of extreme heat, climate and weather information, advice on surviving heat waves, partnerships and capacity building, and communications and outreach.
- **Indian:**
 - The **National Disaster Management Authority (NDMA)** has issued **guidelines** on dealing with heatwaves.
 - However, India **does not recognise heatwaves as a disaster** under its Disaster Management Act (2005).

Hydropower Projects in Himalayas

Why in News

Recently, the central government has said that **no new Hydropower projects would be allowed in the upper reaches of the Ganga** and those sanctioned would have to abide by environment regulations that prescribe a minimum flow in the river at all times of the year to preserve its health.

Key Points

➤ **About:**

- **Seven projects, all in Uttarakhand**, have been allowed to complete construction primarily on the ground that they were over 50% complete.

➤ **Issues:**

- Activists have raised concerns that two projects, Singoli Bhatwari and Phata Bhuyang, which were specifically linked to the **Kedarnath Tragedy** (2013) have been allowed.
- The Vishnugadh project damaged in the February 2021 **Floods** too has been allowed to progress even though 200 plus people died due to the criminal negligence of there not being a **Disaster Warning System**.
- Hydropower projects, dams and construction activities are affecting the fragile Himalayan region making them susceptible to disasters.

➤ **Challenges to Hydropower Projects in Himalayas:**

- **Decreasing Stability:**
 - Glacier retreat and **Permafrost Thaw** are projected to decrease the stability of mountain slopes and increase the number and area of glacier lakes.
 - Permafrost Thawing is the release of the powerful greenhouse gas methane into the atmosphere, which contributes to further warming in a reinforcing feedback loop.
- **Climate Change:**
 - Climate change has driven erratic weather patterns like increased snowfall and rainfall.
 - The thermal profile of ice is increasing, which means that the temperature of ice that used to

Note:



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range from -6 to -20 degree C, is now -2 degree C, making it more susceptible to melting.

○ **Increase in Calamitic Instances:**

- With increased instances of cloudbursts, and intense spells of rainfall and avalanches, residents of the region are also placed at increased risk of loss of lives and livelihood.

➤ **Initiative Taken:**

- **National Mission on Sustaining Himalayan Ecosystem (NMSHE)** is one of the eight missions under the **National Action Plan on Climate Change (NAPCC)**. The mandate is to evolve measures to sustain and safeguard the Himalayan glaciers, mountain ecosystems, biodiversity and wildlife conservation & protection.

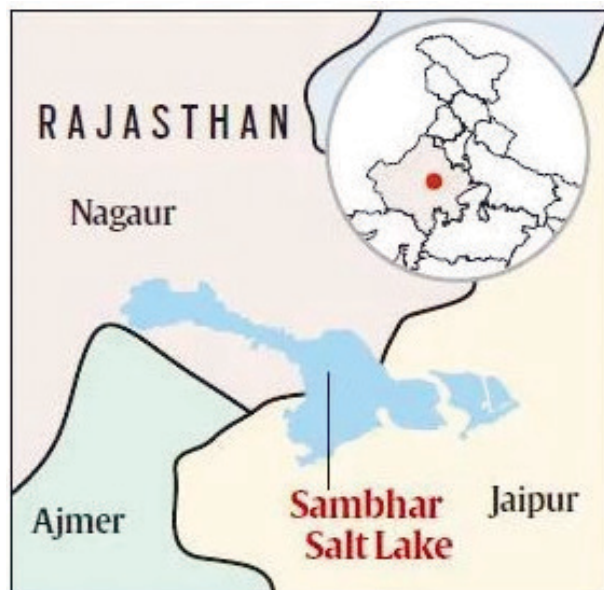
Shrinking of Sambhar Lake: Rajasthan

Why in News

According to a recent study, Sambhar Salt Lake in Rajasthan is **constantly shrinking with the degradation of soil and water quality** and a decline in the population of **migratory birds**.

Key Points

- **Location:**
 - **80 km south-west of Jaipur** in east-central Rajasthan, it is the **country's largest inland saline water body**.
 - Represents the **depression of the Aravalli Range**.
- **Famous For:**
 - Production of **brine/salt**, houses one of the largest salt manufacturing units in the country.
 - Thousands of **migratory birds every year**.
- **Ramsar Site:**
 - A **wetland of 'international importance'** under the **Ramsar Convention**, declared in 1990.
- **Rivers:**
 - Receives water from six rivers, namely **Samaod, Khari, Mantha, Khandela, Medtha, and Roopangarh**.
- **Vegetation in Catchment Area:**
 - Mostly **xerophytic type** (Xerophyte is a plant adapted for growth under dry conditions).



➤ **Fauna:**

- **Flamingoes**, pelicans and the waterfowls are commonly sighted.

➤ **Other Nearby Places:**

- Shakambari Devi temple, Sambhar Wildlife Sanctuary.

➤ **Major Concerns:**

- **Loss of Area:**
 - Almost **30% of the Sambhar Lake's area** had been **lost to mining and other activities**, including the **illegal salt pan encroachments**.
- **Livelihoods of Local People:**
 - The loss in the area has also threatened the livelihoods of local people who have always **lived in harmony with the lake and its ecology**.
 - The **Aravalli hills have decreased by 0.1%** (as compared to in 1971). The hill has been a natural barrier limiting the salt from spreading into other fertile areas.
 - If this natural wall continues to fall it will force the people to migrate.
- **Regarding Migratory Birds:**
 - The **wetland has decreased** whereas vegetation cover has increased, **leading to the shortage of red algae** which forms the **main source of food for the migratory birds**.
 - The **death of more than 20,000 birds** belonging to **about 10 species** which migrate annually to the lake due to **avian botulism** in 2019.

Note:

- India witnessed an increase in the level of desertification in 28 of 31 states and Union territories between 2011-13 and 2018-19, a closer look at data in the atlas showed.

➤ **Causes:**

○ **Loss of Soil Cover:**

- Loss of soil cover, mainly due to rainfall and surface runoff, is one of the biggest reasons for desertification. It is responsible for 11.01% of the desertification in the country.
- **Cutting forests** adversely affect the soil and cause degradation. As **urbanization** increases, the demand for resources is also increasing.

○ **Vegetation Degradation:**

- Vegetation degradation is defined as, "the temporary or permanent reduction in the density, structure, species composition or productivity of vegetation cover".
- It is found to be responsible for **9.15% of desertification in the country**.

○ **Water Erosion:**

- It **results in Badland Topography** which itself is an initial stage of desertification.
 - **Badlands** are a type of dry terrain where softer sedimentary rocks and clay-rich soils have been extensively eroded.
- In 2011-13, water erosion was responsible for 10.98% of desertification in the country.

○ **Wind Erosion:**

- Sand encroachment by wind reduces fertility of the soil making the land susceptible to desertification.
- It was found to be responsible for 5.46% of the desertification in India.

○ **Climate Change:**

- It may exacerbate desertification **through alteration of spatial and temporal patterns** in temperature, rainfall, solar radiation and winds.

➤ **Impact:**

○ **Economic Impact:**

- Land degradation **threatens agricultural productivity**. It reduces soil health, thus in turn **impacting the livelihood of rural people**.

○ **Climate Change:**

- It is exacerbating climate change events, which in turn, are causing even greater degradation.

- For e.g. degraded land loses its capacity to absorb carbon-dioxide (CO₂), a greenhouse gas (GHG) that is the biggest factor in worsening global warming.

○ **Water Scarcity:**

- Land degradation has resulted in a deterioration in the quantity and quality of both surface and groundwater resources.
- The dryland population vulnerable to water stress and drought intensity is projected to reach 178 million under the most ideal conditions of 1.5 deg-C warming by 2050.

○ **Rights of Indigenous People:**

- Insecure land tenure affects the ability of people and communities to fight climate change, which is further endangered by land degradation.

New Species of Cascade Frog: Arunachal Pradesh

Why in News

Recently, a team of researchers have discovered a new species of cascade frog in Arunachal Pradesh **named Adi Cascade Frog**.

- Earlier, a new frog species named **Minervarya Pentali** was discovered in the **Western Ghats**.

Key Points

➤ **About:**

- It is a predominantly brown colour frog, with a size ranging roughly between 4 cm to 7 cm.
- It is formally described as *Amolops adicolasp.nov.*, which is morphologically distinguished from its congeners by a suite of characters that include adult size, body colouration and markings, skin texture, snout shape, foot webbing and digit tip morphology.

➤ **Naming:**

- It has been named **Adi Cascade Frog** (*Amolops Adicola*) after the indigenous **Adi tribe** living in the **Adi hills** of Arunachal Pradesh. The literal meaning of Adi is "hill" or "mountain top".
 - Historically, this region was also known as **Abor hills**.

➤ **Cascade Frog:**

Note:



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- Cascade frogs are named so because of their preference of small waterfalls or cascades in flowing hill streams.
- Cascade Frogs belong to the genus Amolops.
 - The genus Amolops is one of the largest groups of ranid frogs (family Ranidae) with currently 73 known species that are widely distributed across Northeast and North India, Nepal, Bhutan, China, through Indochina, to the Malay Peninsula.

Adi Tribe

- The Adi tribe of Arunachal Pradesh is believed to **have come from southern China in the 16th century.**
- They are the **Tibeto-Burman language speaking** population..
- They reside in the far north inhabiting East Siang and Lower Dibang Valley districts of Arunachal Pradesh.
- The Adis are **experts at making cane and bamboo items.**
- **Solung** (harvesting festival where animal sacrifices and rituals are performed) and **Aran** (a hunting festival where all the male members of the family go for hunting) are **two major festivals of the Adi tribes.**
- It is a **Scheduled Tribe** in Arunachal Pradesh.

Leaded Petrol Eradicated Globally: UNEP

Why in News

Recently, the **United Nations Environment Programme (UNEP)** announced that the use of **leaded petrol** has been eradicated from the globe.

Petrol\Gasoline

- Gasoline, which is also called gas or petrol, is a **mixture of volatile, flammable liquid hydrocarbons derived from petroleum** and used as fuel for internal-combustion engines. It is also used as a solvent for oils and fats.
- Originally a **by-product of the petroleum industry** (kerosene being the principal product), gasoline became the preferred automobile fuel because of its high energy of combustion and capacity to mix readily with air in a carburetor.

Leaded vs Unleaded Petrol

- The main difference between leaded and unleaded fuel is the **additive tetraethyl lead.**
 - The **combustion of leaded petrol causes the lead to be released into the air.**
 - Lead is a **heavy pollutant that does damage not only to the environment but also to the people** who are exposed to it.

Key Points

- **About:**
 - It is a milestone that will **prevent more than 1.2 million premature deaths and save world economies over USD 2.4 trillion annually.** It is a huge milestone for global health and environment.
 - UNEP warned that **fossil fuel use in general must still be drastically reduced** to stave off the frightening effects of **climate change.**
- **Era of Leaded Petrol:**
 - Until the **1970s, almost all the gasoline sold across the globe contained lead.**
 - When UNEP launched its campaign named **Partnership for Clean Fuels and Vehicles (PCFV)** against leaded petrol in **2002**, many major economic powers had already stopped using the fuel, including the United States, China and India. But the situation in lower-income nations remained dire.
 - **More than 100 countries around the world were still using leaded petrol**, despite studies linking it to premature deaths, poor health and soil and air pollution. Concerns were first raised as early as 1924.
 - In July 2021, it was **eradicated from Algeria - the last country using leaded petrol.**

Note:



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➤ **Need of Eradication:**○ **Pollution:**

- The **transport sector is responsible for nearly a quarter of energy-related global greenhouse gas emissions** and is set to grow to one third by 2050.
- Adding that 1.2 billion new vehicles would hit the streets in the coming decades.
- It includes millions of **poor-quality used vehicles** exported from Europe, the United States and Japan, to mid- and low-income countries.

○ **Global Warming:**

- Recently, a report named **Climate Change 2021** by the UN's **Intergovernmental Panel on Climate Change (IPCC)** warned that Earth's average temperature would be 1.5 degrees Celsius warmer around 2030 compared to pre-industrial times.
 - A decade earlier than projected, the rise has raised alarm bells about the use of fossil fuels.
- **Health:**
 - Leaded petrol causes **heart disease, stroke and cancer**. It also affects the development of the human brain, especially harming children.

➤ **Significance:**

- The end of leaded petrol is expected to support the **realization of multiple Sustainable Development Goals (SDG)**, including good health and well-being (SDG3), clean water (SDG6), clean energy (SDG7), sustainable cities (SDG11), climate action (SDG13) and life on land (SDG15).
- It also offers an **opportunity for restoring ecosystems**, especially in urban environments, which have been particularly degraded by this toxic pollutant.

Immune Cells in Sea Corals

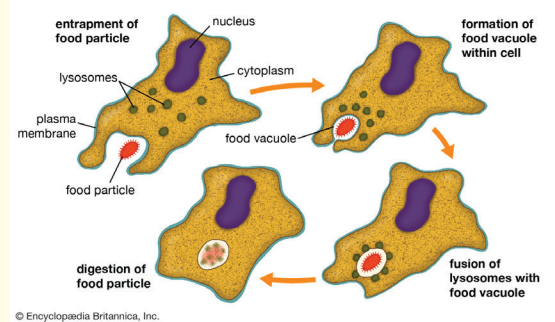
Why in News

A new study has identified for the **first time that specialised immune cells (phagocytic cells) exist in certain varieties of sea corals and anemones.**

- It will help in **better understanding how reef-building corals and other reef animals protect themselves from foreign invaders** like bacteria and viruses found in and around **coral reefs**.

Phagocytosis

- It is the process by which **certain living cells called phagocytes ingest or engulf other cells or particles.**
- The phagocyte may be a **free-living one-celled organism, such as an amoeba**, or one of the **body cells**, such as a **white blood cell**.
- In some forms of animal life, such as **amoebas and sponges**, **phagocytosis is a means of feeding.**
- In higher animals phagocytosis is chiefly a **defensive reaction against infection and invasion of the body by foreign substances (antigens).**



Sea anemones

- They are sometimes called the **'flowers of the sea'**, sea anemones are actually **beautiful animals**, they are a close **relative of coral and jellyfish**, and are the marine, predatory animals of the order Actiniaria.
- They are **found from the tidal zone of all oceans to depths of more than 10,000 metres.**

Key Points

➤ **Coral:**

- Corals are made up of **genetically identical organisms called polyps**. These polyps have **microscopic algae called zooxanthellae** living within their tissues.
 - The corals and algae have a **mutualistic relationship**.
 - The coral **provides the zooxanthellae with the compounds** necessary for **photosynthesis**. In return, the **zooxanthellae supply the coral with organic products of photosynthesis**, like carbohydrates, which are utilized by the coral polyps for the synthesis of their calcium carbonate skeletons.
 - In addition to providing corals with essential nutrients, **zooxanthellae are responsible for the unique and beautiful colors of corals.**

Note:

- They are also called the “rainforests of the seas”.
- There are two **types of corals**:
 - **Hard, shallow-water corals**—the kind that builds reefs.
 - **Soft corals and deepwater corals** that live in dark cold waters.
- **Benefits of Coral:**
 - **Habitat:**
 - Corals are home to over **1 million diverse aquatic species**, including thousands of fish species.
 - **Income:**
 - Coral reefs and related ecosystems have a **global estimated value of USD 2.7 trillion per year**, or 2.2% of all global **ecosystem service** values, this includes tourism and food.
 - **Coastal Protection:**
 - Coral reefs **reduce shoreline erosion** by absorbing energy from the waves. They can protect **coastal housing, agricultural land, and beaches**.
 - **Medicine:**
 - Reefs are **home to species** that have the **potential for treatments** for some of the **world’s most prevalent and dangerous illnesses and diseases**.
- **Threats:**
 - **Overfishing & Destructive Fishing:**
 - Overfishing can affect the **reef’s ecological balance and biodiversity**.
 - Fishing with **dynamite, cyanide, bottom trawling and Muro Ami** (banging on the reef with sticks) can **damage entire reefs** and is unsustainable.
 - **Recreational Activities:**
 - Unregulated recreational activities and tourism cause damage to the very environment upon which the industries depend.
 - **Coastal Development:**
 - Coastal areas have some of the fastest rates of growth in tropical countries. **Sensitive habitats are destroyed** or disturbed by the dredging of deep-water channels or marinas, and through the dumping of waste materials.
 - **Pollution:**
 - Urban and industrial waste, sewage, agrochemicals, and oil pollution are poisoning reefs.
 - **Climate Change:**

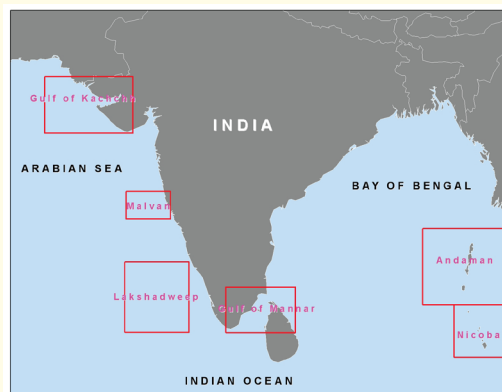
- **Coral Bleaching:** When water is too warm, corals will expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white. This is called coral bleaching.
- **Ocean Acidification:** The rising acidity of the oceans threatens coral reefs by making it harder for corals to build their skeletons.

➤ Initiatives to Protect Corals:

- **Global:**
 - **International Coral Reef Initiative**
 - Global Coral Reef Monitoring Network (GCRMN)
 - Global Coral Reef Alliance (GCRA)
 - **The Global Coral Reef R&D Accelerator Platform**
- **Indian:**
 - India has included the studies on coral reefs under the **Coastal Zone Studies (CZS)**.
 - In India, the **Zoological Survey of India (ZSI)**, with help from Gujarat’s forest department, is attempting a process to restore coral reefs using “**biorock**” or **mineral accretion technology**.
 - **National Coastal Mission Programme**, to protect and sustain coral reefs in the country.

Major Locations of Corals in India

- Coral reefs are present in the areas of **Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan**.



India Decides to Ratify the Kigali Amendment

Why in News

Recently, the Union Government approved the ratification of the **Kigali Amendment to the Montreal**

Note:

Protocol on phasing down climate-damaging refrigerant Hydrofluorocarbons (HFCs).

- It comes close on the heels of similar decisions by the United States and China, the world's largest producers and consumers of HFCs. 122 countries had ratified the Kigali Amendment by the end of July 2021.

DEAL TO CURB USE OF HFCs

197 Parties (196 countries plus EU) agreed to the deal in Kigali, Rwanda

WHY IT WAS NEEDED

- ➔ HFCs, climate-damaging refrigerants, are used in air-conditioning, refrigeration, foams and aerosols as replacement for many ozone-depleting substances (ODS)
- ➔ ODS are being phased out under the Montreal Protocol (MP) of 1987
- ➔ Phasing out ODS is important to protect the stratospheric ozone layer
- ➔ Stratospheric ozone layer filters out harmful ultraviolet radiation, which is associated with increased prevalence of skin cancer and cataracts
- ➔ HFC is not ODS, but its global warming potential is thousands of times that of carbon dioxide
- ➔ So, the global community wanted the use of HFCs also to be curbed under MP
- ➔ Agreement in Kigali is meant to amend the MP to bring the HFCs' phase-down within its ambit

WHAT IS AGREED

- ➔ Agreed to an amendment to include HFCs' phase-down under MP (Unlike Paris Agreement, MP is legally binding)
- ➔ It will come into force from Jan 1, 2019
- ➔ Creates three categories of countries with different schedules and timetables for reduction

- 1** Developed countries led by the US, Japan and West European nations.
- 2** Developing countries like China, South Africa, Brazil among others.
- 3** Developing countries like India, Iran, Iraq, Pakistan among others.

HFCs' PHASE DOWN SCHEDULES

Category	Baseline	Freezing	Max % reduction
1	2011-13	2019	85% by 2036
2	2020-22	2024	80% by 2045
3	2024-26	2028	85% by 2047

- ➔ Freezing year is the year when use of HFCs will peak before being rapidly scaled down and finally phased out altogether
- ➔ Baseline years are the years for which the average production/consumption quantity of HFCs is taken as the upper limit—so it serves as a level

Key Points

➤ About:

- The United States, China and India are in separate groups of countries, with different time schedules to phase out their HFCs and replace them with climate-friendly alternatives.
- India has to reduce its HFC use by 80% by the year 2047, while China and the United States have to achieve the same target by the year 2045 and 2034 respectively.
- India will complete its phasedown of HFCs in four steps from 2032 onwards with a cumulative reduction of 10% in 2032, 20% in 2037, 30% in 2042 and 80% in 2047.
- **Amendments to the existing legislation framework, the Ozone Depleting Substances (Regulation and Control) Rules** to allow appropriate control of the production and consumption of hydrofluorocarbons to ensure compliance with the Kigali Amendment **will be done by mid-2024.**

➤ Background:

- The **1989 Montreal Protocol** is not a climate agreement. It is instead **aimed at protecting the earth from Ozone-Depleting Substances (ODSs)** like the ChloroFluoroCarbons (CFCs), that were earlier used in the air-conditioning and refrigerant industry.
 - The widespread use of **CFCs had caused a hole in the Ozone layer of the atmosphere**, which allowed some harmful radiation to reach the earth. These radiations were considered potential health hazards.
- The Montreal Protocol **led to the replacement of CFCs with Hydrofluorocarbons (HFCs)** which do not destroy the Ozone layer.
- But they were **later found to be extremely potent in causing Global Warming**. So, the HFCs solved one problem, but were contributing in a major way to another.
- But these could not be eliminated under the original provisions of Montreal Protocol which was meant to phase-out ODSs only.
- The **Kigali Amendment enabled the Montreal Protocol to mandate the elimination of HFCs** as well.
 - In October 2016, with the United States' leadership, 197 countries adopted an amendment to phase down HFCs under the Montreal Protocol in Kigali, Rwanda.

➤ Kigali Amendment to Montreal Protocol:

- The Kigali Amendment aims for the **phase-down of hydrofluorocarbons (HFCs)** by cutting their production and consumption.
- The goal is to achieve **over 80% reduction in HFC consumption by 2047.**
- Given their zero impact on the depletion of the ozone layer, **HFCs are currently used as replacements of hydrochlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs)** in air conditioning, refrigeration and foam insulation, however they are powerful greenhouse gases.
- **Under the amendment:**
 - Developed countries will reduce HFC consumption beginning in 2019.
 - Most developing countries will freeze consumption in 2024.

Note:



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- Some developing countries including India with unique circumstances will freeze consumption in 2028.
- The plan also **provides financing to certain countries**, to help them transition to climate-friendly alternatives.
- With the Kigali Amendment, the **Montreal Protocol has become an even more powerful instrument** against global warming.
- **Significance:**
 - This important instrument is crucial to **achieving the target of restraining the increase in global temperatures to 2 degree Celsius** from pre-industrial times.
 - As pointed out by a recent report of the **Intergovernmental Panel on Climate Change (IPCC)**, the average temperature of the planet has already risen by about 1.1 degree Celsius.
 - The collective action is expected to **prevent emissions of upto 105 million tonnes of carbon dioxide equivalent of greenhouse gases helping to avoid up to 0.5 degree Celsius** of global temperature rise by 2100, while continuing to protect the ozone layer.
 - Because **HFCs** were not ozone-depleting, they were not controlled substances under the Montreal Protocol. They were part of the problematic greenhouse gases whose emissions are **sought to be curtailed through climate change instruments such as the Kyoto Protocol of 1997 and the 2015 Paris Agreement**.
 - But the Montreal Protocol has been a far more effective and successful agreement than the climate change instruments. It has already resulted in the phase-out of 98.6% of ozone-depleting substances. The remaining 1.4% are the HCFCs that are in the process of being transitioned.
- **Significance for India:**
 - **India became a party** to the Montreal Protocol on Substances that Deplete the Ozone Layer in **June 1992** and since then has ratified the amendments to the Montreal Protocol. India **has successfully met the phase-out targets of all the Ozone Depleting Substances** as per the Montreal Protocol Schedule.
 - India is **one of the first countries in the world to launch a cooling action plan in 2019**. This

comprehensive plan is aimed at reducing cooling demand, enabling refrigerant transition, enhancing energy efficiency and better technology options with a 20-year time horizon.

- The **signing of the Kigali Amendment is a cue for the markets to make a faster transition from HFCs to cleaner gases**.
- It would **boost domestic manufacturing and employment generation goals**.
- The ratification would signify that **India is ready to compete in the market for low-Global Warming Potential GWP (climate-friendly) refrigerants**, which will spur domestic innovation and attract international investments.
- The decision would **pave the way for India to achieve its climate change mitigation goals and cooling commitments**. India is among a small group of countries on track to meet its climate commitments under the Paris Agreement.

Sea Erosion in India

Why in News

Recently, the **National Centre for Coastal Research (NCCR)** under the Ministry of Earth Science has published a report that said **one-third of India's coastline underwent sea erosion in 28 years**.

- As much as **32% of India's coastline underwent sea erosion** and **27% of it expanded** between 1990 and 2018.

Key Points

- **Findings of the Report:**
 - **India's Coastline:**
 - The country's coastline is **6,631.53 kilometres long** which is surrounded by the Arabian Sea in the west, Bay of Bengal in the east, and the Indian Ocean in the south.
 - **2,135.65 kilometres** was subject to **varying degrees of erosion** and **1,760.06 km expanded** during this period.
 - Nearly **2,700 km** of the coastline is **stable**.
 - The long coastline of India is **dotted with several major ports** such as Kandla, Mumbai, Nhava Sheva, Mangalore, Cochin, Chennai, Tuticorin, Visakhapatnam, and Paradip.

Note:



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○ Coastal Erosion:

- 60% of the coastline of West Bengal underwent erosion during the period followed by Puducherry (56%), Kerala and Tamil Nadu at 41% and 41%, respectively.
- **More erosion in Eastern Coast** than the Western coast:
 - The **eastern coast sees a lot of rain** which keeps the seas rough through most of the year. Besides the **Southwest Monsoon** (June to September), the **eastern coast also witnesses the Northeast Monsoon** from October to December and brings rain to coastal Andhra Pradesh and Tamil Nadu.
 - The eastern coast **underwent more erosion due to frequent Cyclonic Activities** from Bay of Bengal in the past three decades, compared to the western coast, which remained largely stable.

○ Land Accretion:

- Odisha on the eastern coast is the only state where the coast witnessed an expansion of more than 50%.
- This was followed by the coast of Andhra Pradesh, which expanded 48%; Karnataka (26%) etc.

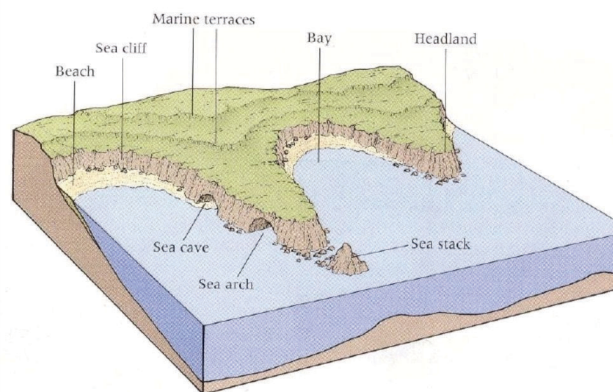
➤ Coastal Erosion:

- **Meaning:** Coastal erosion is the **process by which local sea level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and/or sands along the coast.**
- **Erosion and Accretion:** Erosion and accretion are **complementary** to each other. If the sand and sediments have drifted from one side, it must accumulate somewhere else.
 - Soil erosion **is the loss of land and human habitation as sea water washes off** regions of soil along the coastline.
 - Soil accretion, on the other hand, **results in an increase in the land area.**
 - However, if **accretion happens in Deltas, Estuaries, and creeks, the soil will block the inflow of seawater into these areas** which are breeding ground for several species of aquatic flora and fauna.
- **Impact:** Recreational activities (sun bathing, picnicking, swimming, surfing, fishing, boating,

diving, etc.) may be affected if existing beaches are reduced in width or disappear altogether. Also, there can be an impact on livelihoods of coastal communities.

- **Measures:** Coastal habitats such as **Mangroves, Coral Reefs and lagoons** are recognized as the best defence against sea storms and erosion, deflecting and absorbing much of the energy of sea storms. Therefore, it is important to maintain these natural habitats for shore protection as well as for environmental conservation.

What features does coastal erosion cause?



➤ Factors Causing Coastal Erosion:

○ Natural Phenomena:

- Wave energy is considered to be the primary reason for coastal erosion.
- Natural hazards like cyclones, thermal expansion of seawater, storm surges, tsunami etc due to the melting of continental glaciers and ice sheets as a result of climate change hamper the natural rhythm and precipitate erosion.

○ Littoral Drift:

- Strong littoral drift resulting in sand movement can also be considered as one of the major reasons for coastal erosion.
- Littoral drift means the natural movement of sediment along marine or lake shorelines by wave action in response to prevailing winds.

○ Anthropogenic Activities:

- Dredging, sand mining and coral mining have contributed to coastal erosion causing sediment deficit, modification of water depth leading to longshore drift and altered wave refraction.

Note:

- Coastal erosion has been sparked by fishing harbours and dams constructed in the catchment area of rivers and ports reducing the flow of sediments from river estuaries.
- **Heavy Rainfall:**
 - Heavy rainfall can enhance the saturation of soils, with high saturation leading to a reduction in the soil's shear strength, and a corresponding increase in the chance of **Slope Failure (landslides)**.
- **Indian Initiatives for Coastal Management:**
 - **National Centre for Sustainable Coastal Management:**
 - It aims to promote **integrated and sustainable management of the coastal and marine areas** in India for the benefit and wellbeing of the traditional coastal and island communities.
 - **Integrated Coastal Zone Management Plan:**
 - It is a process for the management of the coast using an integrated approach, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability.
 - **Coastal Regulation Zone:**
 - The Coastal Regulation Zone (CRZ) notification was issued in 1991 under the Environmental Protection Act, 1986, by the Ministry of Environment and Forest to regulate activities in coastal areas of India.

Plastic Crisis: Sundarbans

Why in News

Unregulated inflow of relief to the **Sundarbans** has resulted in a new crisis in the cyclone-battered region as plastic has been accumulated in the area.

- The threat posed by **plastic** is so great for the **Sundarbans** because the region is witnessing **frequent tropical storms**, which lead to **devastation**.

Key Points

- **Plastic Pollution:**
 - **Plastic pollution** is caused by the **accumulation** of plastic waste in the environment.

- It can be categorized in **primary plastics**, such as cigarette butts and bottle caps, or **secondary plastics**, resulting from the degradation of the primary ones.
- **Reasons for Accumulation of Plastic in Sundarbans:**
 - **Cyclones:**
 - The region is witnessing **frequent cyclones**, which lead to devastation, followed by the necessity for **relief** and rehabilitation of inhabitants.
 - In geography, a location's relief is the **difference between its highest and lowest elevations**.
 - **Plastic waste associated with relief material**, used in the aftermath of **Cyclone Amphan** (May 2020) in the Sundarbans, could cause damage to the eco-sensitive region.
 - Prior to this, the region had witnessed cyclones **Fani** (May 2019) and **Bulbul** (November 2019).
 - **Tourism:**
 - Besides **recent cases of cyclones** in the region, **tourists have also contributed** to the accumulation as they leave behind heaps of plastic waste that is strewn all over the forest.
- **Concerns:**
 - **Increase Toxicity:**
 - The presence of plastic in saline water increases the **toxicity of water** and could also **contribute to the eutrophication of water**.
 - Eutrophication is the **process** by which an **entire body of water, or parts of it**, becomes **progressively enriched with minerals and nutrients**.
 - It also results in oxygen depletion.
 - Given that **Sunderbans is connected to the sea**, the **increase of plastic in the region could lead to plastic waste entering the ocean**.
 - **Threat to food System:**
 - The **breakdown of plastics** in the water will lead to an **increase in microplastics**, which would subsequently **enter the food system**.
 - **Affects Livelihoods:**
 - Sunderbans is **largely dependent on fisheries and aquaculture** and any change in the delicate ecosystem can spell doom **not only for the ecology but also for livelihoods**.

Note:



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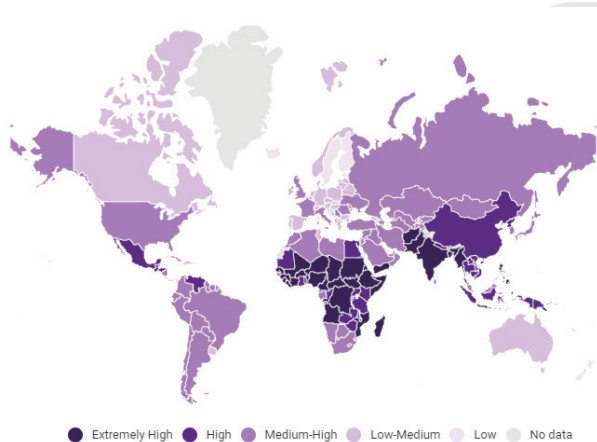
Children's Climate Risk Index: UNICEF

Why in News

Recently, the **United Nations Children's Fund (UNICEF)** in collaboration with **Fridays for Future** launched a report named '**The Climate Crisis Is a Child Rights Crisis: Introducing the Children's Climate Risk Index**'.

- It is the **first comprehensive analysis of climate risk from a child's perspective**.
- Earlier an analysis, based on **Notre Dame Global Adaptation Initiative (ND-GAIN) index**, had shown the impact of **Climate Change** on children across the world.

Level of Climate Risk on Various Countries



Key Points

- **Children's Climate Risk Index:**
 - It **ranks countries based on children's exposure to climate and environmental shocks**, such as **Cyclones** and **Heatwaves**, as well as their vulnerability to those shocks, based on their access to essential services.
 - **Pakistan (14th), Bangladesh (15th), Afghanistan (25th) and India (26th)** are among four South Asian countries where children are at **extremely high risk** of the impacts of the climate crisis.
- **Indian Scenario:**
 - **India is among four South Asian countries** where children are most at risk of the impacts of climate change threatening their health, education, and protection.

- It is estimated that **more than 600 million Indians will face 'acute water shortages'** in the coming years, while at the same time **Flash Flooding is to increase significantly** in the majority of India's urban areas once the global temperature increase rises above 2 Celsius.

- Twenty-one of the world's 30 cities with the most polluted air in 2020 were in India.

➤ Global Scenario:

○ Countries With Maximum Vulnerability:

- Young people living in the **Central African Republic, Chad, Nigeria, Guinea, and Guinea-Bissau** are the most at risk of the impacts of climate change.
- These children face a deadly combination of exposure to multiple climate and environmental shocks with a **high vulnerability due to inadequate essential services, such as water and sanitation, healthcare and education**.

○ Impact of Climate and Environmental Hazards:

- Nearly every child around the world is at risk from at least one of the climate and environmental hazards which are **Coastal Flooding, Riverine Flooding, Cyclones, Vector Borne Diseases, Lead Pollution, Heatwaves** and **Water Scarcity**.
 - An estimated 850 million children – 1 in 3 worldwide – live in **areas where at least four of these climate and environmental shocks overlap**.
 - As many as 330 million children – 1 in 7 worldwide – live in **areas affected by at least five major shocks**.

○ Inequitable Impact:

- There is a disconnect between **where GreenHouse gas (GHG) Emissions** are generated, and **where children are enduring the most** significant climate-driven impacts.
 - The children from **countries least responsible will suffer most of all**.
- Climate change is deeply inequitable. While **no child is responsible for rising global temperatures, they will pay the highest costs**.

○ Children are More Precarious:

- Compared to adults, children require more food and water per unit of their body weight, are less able to survive extreme weather events,

Note:



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and are more susceptible to toxic chemicals, temperature changes and diseases, among other factors.

➤ **Nations Not Meeting the Climate Goals:**

- The majority of the carbon emission reduction pledges for 2030 that 184 countries made under the **Paris Agreement** aren't nearly enough to keep global warming well below 2 degrees Celsius.
- Some countries won't achieve their pledges, and some of the world's largest carbon emitters will continue to increase their emissions.

➤ **Recommendations:**

○ **Increase Investment:**

- Increase investment in climate adaptation and resilience in key services for children.

○ **Reduce Greenhouse Gas Emissions:**

- Countries must cut their emissions by at least 45% (compared to 2010 levels) by 2030 to keep warming to no more than 1.5 degrees Celsius.

○ **Provide Climate Education:**

- Provide children with climate education and greens skills, critical for their adaptation to and preparation for the effects of climate change.

○ **Include Young People in Decisions:**

- Include young people in all national, regional and international climate negotiations and decisions, including at **COP (Conference of the Parties- A climate Convention) 26** (It will be held in Glasgow, UK in November 2021).

○ **Ensure Pandemic Recovery is Inclusive:**

- Ensure the recovery from the **Covid-19 pandemic** is green, low-carbon and inclusive, so that the capacity of future generations to address and respond to the climate crisis is not compromised.

Forum for Decarbonisation of Transport Sector

Why in News

Recently, **Forum for Decarbonizing Transport** was jointly launched by **NITI Aayog** and **World Resources Institute (WRI)**, India.

- **WRI India** is an independent charity legally registered as the **India Resources Trust** which provides objective

information and practical proposals to foster environmentally sound and socially equitable development.

- **NITI Aayog** serves as an advisory think tank for the government and is chaired by the Prime Minister. It replaced the **Planning Commission**.

Key Points

➤ **About:**

- The forum is a part of the **Nationally Determined Contributions (NDC)-Transport Initiative for Asia (NDC-TIA) project**, which focuses on developing a coherent strategy of effective policies and the formation of a multi-stakeholder platform for decarbonising transport in the region.

- NDC-TIA is a joint programme of **seven organisations that will engage China, India, and Vietnam** in promoting a **comprehensive approach to decarbonising transport in their respective countries**. The project is part of the **International Climate Initiative (IKI)**.

- The IKI is a **key element of Germany's climate financing and the funding commitments** in the framework of the **Convention on Biological Diversity**.

- It will act as the conduit for bringing diverse voices and needs to adopt an **integrated approach for greening the transport sector in India**.

➤ **Aim:**

- **To Bring down the peak level of GreenHouse Gas emissions (transport sector) in Asia** (in line with a well below 2-degree pathway), resulting in problems like **congestion and air pollution**.

➤ **Expected Benefits:**

- It will help in the **development of innovative business models** for targeted results and the holistic growth of the electric mobility space in India.
- It will also **provide a platform to initiate dialogues for the development of uniform policies and help achieve specific results** in reducing emissions from the transport sector.

➤ **Need:**

- India has a **massive and diverse transport sector**, which is also the **third most CO₂ emitting sector**.
- Data from **International Energy Agency (IEA)**, 2020 and **Ministry of Environment Forest and Climate Change**, 2018 suggests that within the **transport**

Note:



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sector, road transport contributes to more than 90% of the total CO₂ emissions.

- With increasing **urbanisation**, the fleet size i.e. the number of sales of vehicles is increasing rapidly. It is projected that the total number of vehicles will be doubled by 2030.
- Therefore, the **transition to a decarbonisation path** for the transport sector in India is essential to achieving the goals of the **Paris Climate Agreement for 2050**.

➤ **Related Initiatives:**

- **FAME Scheme:**
 - It is a part of the **National Electric Mobility Mission Plan**. Its main thrust is to encourage electric vehicles by providing subsidies.
- **Incentives under PLI Scheme:**
 - Last year the scheme was rolled out for various industries including an outlay of over Rs. 5700 crore for the automobile and auto-component industry over a period of five years.
 - Around Rs.18,000 crore was approved for development of advanced cell chemistry battery storage manufacturing.
 - These incentives further aim to encourage indigenous development of **Electric Vehicles (EVs)** so as to bring down their upfront cost.
- **Renewable Automotive Industry:**
 - India is currently engaged in building a domestic renewable automotive industry with the aim to become the world's largest electric vehicle manufacturing and supplying hub.
 - **Battery electric vehicle and fuel-cell vehicle technologies** are all set to overtake fossil-run vehicles in the country by 2050.

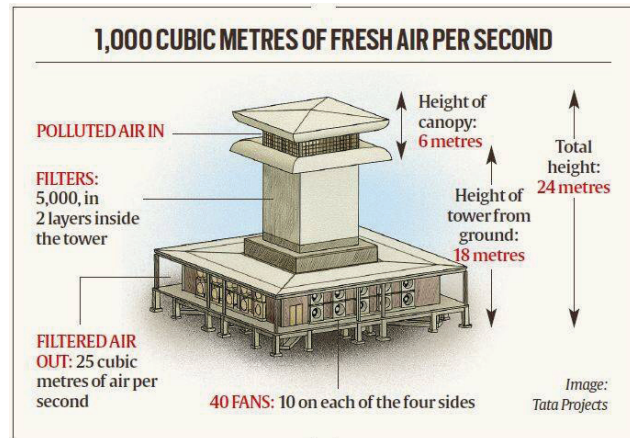
Delhi's New Smog Tower

Why in News

Recently, the Chief Minister of Delhi inaugurated the country's first 'smog tower' in Connaught Place.

- It was inaugurated months before the pollution level spikes in the national capital due to burning of crop waste (**stubble burning**) by farmers.

Key Points



➤ **Background:**

- In 2019, the **Supreme Court** directed the **Central Pollution Control Board (CPCB)** and the Delhi government to come up with a plan to install smog towers to combat air pollution.
- **IIT-Bombay** then submitted a proposal for the towers to the CPCB.
- In January 2020, the **Supreme Court** directed that **two towers** should be installed by April as a pilot project.
- The **smog tower at Connaught Place (CP)** is the first of these towers. The second tower, being constructed at Anand Vihar in east Delhi with CPCB as the nodal agency, is nearing completion.

➤ **About:**

- Smog towers are structures **designed to work as large-scale air purifiers**.
- They are usually fitted with **multiple layers of air filters**, which clean the air of pollutants as it passes through them.
- **China** has the **world's largest smog tower**.

➤ **Working of the Tower:**

- It uses a '**downdraft air cleaning system**' where polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.
 - It is **different from the system used in China**, where a 60-metre smog tower uses an '**updraft**' system — air is sucked in from near the ground, and is propelled upwards by heating and convection. Filtered air is released at the top of the tower.

➤ **Developed by:**

Note:



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- **Tata Projects Limited (TPL)** built it with technical support from **IIT-Bombay and IIT-Delhi**, which will analyse its data.
- **National Biofuel Coordination Committee (NBCC) India Ltd** is the project management consultant.
- **Delhi Pollution Control Committee** was in charge of the Project.

➤ **Need:**

- According to a report by CPCB, an increase of **258% to 335%** has been observed in the **concentration of PM10** in Delhi since 2009.
- But the **most prominent pollutant in Delhi and neighbouring areas** is **PM2.5**
 - PM2.5 refers to **fine particles which penetrate deep into the body and fuel inflammation in the lungs and respiratory tract**, leading to risks of cardiovascular and respiratory problems, including a weak immune system.
- **Delhi was the most polluted capital city** in the world in 2020 for the third consecutive year, according to a report by a **Swiss group (released in March 2021)** that ranked cities based on their air quality **measured in terms of the levels of ultrafine particulate matter (PM 2.5)**.

➤ **Challenges:**

- It may **provide immediate relief from air pollution in a small area** but they are a **costly quick-fix measure with no scientific evidence** to back their efficacy in the long term.
- The tower **could have an impact on the air quality up to 1 km from the tower**.
 - However, the **actual impact will be assessed by IIT-Bombay and IIT-Delhi** in a **two-year pilot study** that will also determine how the tower functions under different weather conditions, and how levels of PM2.5 vary with the flow of air.

➤ **Other Steps Taken to Tackle the Problem of Pollution in Delhi:**

- **Subsidy to farmers** for buying **Turbo Happy Seeder (THS)** which is a machine mounted on a tractor that cuts and uproots the stubble, in order to reduce stubble burning.
- The introduction of **BS-VI vehicles**, push for **electric vehicles (EVs)**, **Odd-Even** as an emergency measure and construction of the Eastern and Western Peripheral Expressways to reduce vehicular pollution.

- Implementation of the **Graded Response Action Plan (GRAP)**. It is a set of curbs triggered in phases as the air quality deteriorates, which is typical of the October-November period.
- Use of **Green Crackers**.
- Development of the **National Air Quality Index (AQI)** for public information under the aegis of the CPCB.

Slender Loris

Why in News

Recently, some environmentalists demanded that Tamil Nadu's Kadavur Reserve Forest be declared as a **Wildlife Sanctuary** in order to conserve **Slender Loris** (*Loris tardigradus*).

- The wildlife census conducted during 2016-17 showed an **appreciable population of 3,500 slender loris** in the **Karur Reserve Forest**.

Key Points

➤ **About:**

- The slender lorises (*Loris*) are a genus of loris **native to India and Sri Lanka**.
- Slender lorises spend most of **their life in trees, traveling along the tops of branches with slow and precise movements**.
- They generally feed **on insects, reptiles, plant shoots, and fruit**.

➤ **Habitat:**

- They are found in **tropical rainforests, scrub forests, semi-deciduous forests, and swamps**.

➤ **Types:**

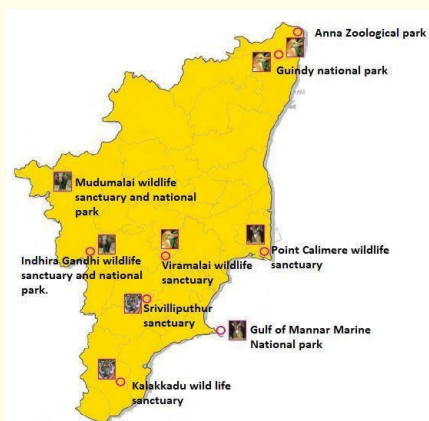


Note:

- There are **two species of Slender Loris**, the only members of the genus 'Loris':
 - **Red Slender Loris** (*Loris tardigradus*)
 - **Grey Slender Loris** (*Loris lydekkerianus*)
- **Threat:**
 - It is believed that they have **medicinal properties** and they are captured and sold. Since there is great demand for keeping these animals as pets, **they are illegally smuggled**.
 - Habitat loss, electrocution of live wires and road accidents **are other threats that have caused its populations to dwindle**.
- **Protection Status:**
 - **IUCN:** Endangered,
 - **Wildlife (Protection) Act of India, 1972:** Schedule I
 - **CITES:** Appendix II

Kadavur Reserve Forest

- **About:**
 - The forest is **located in Karur district of Tamil Nadu** with a forest area of around 6000-hectare. The forest consists of **hills and dense dry areas**.
 - **Indian Bison, Spotted Deer**, mouse deer, slender loris, **Jackal, Mongoose**, black naped hare, wild boar, porcupine, monitor lizard, **Pangolin, Monkeys**, pythons, etc are found in the forests.
- **Major Protected Areas in Tamil Nadu:**



New Algal Species: Andaman & Nicobar

Why in News

Recently, a group of botanists has discovered an **algal**

species with an 'umbrella head' from the **Andaman and Nicobar Islands**.

- The Andaman and Nicobar Islands are **home to Coral Reefs** and are **rich in marine biodiversity**.
- In March 2021 two new red algal **Seaweed** species were discovered along India's coastline.

Algae

- Algae are defined as a **group of predominantly aquatic, photosynthetic, and nucleus-bearing organisms that lack the true roots, stems, leaves**, and specialized multicellular reproductive structures of plants.
- Their photosynthetic pigments are **more varied than those of plants**, and their cells have **features not found among plants and animals**.
- They have ecological roles as **oxygen producers and as the food base** for almost all aquatic life.
- They are **economically important as a source of crude oil and as sources of food** and a number of **pharmaceutical and industrial products** for humans. The study of algae is called **Phycology**.

Key Points

- **About:**
 - It is a bright green algae with a size as small as **20 to 40 mm**.
 - Named after the imaginary sea mermaid, ***Acetabularia jalakanyakae*** is very primitive and is a **single-cell organism**.
 - **Jalakanyaka** in Sanskrit literally means **mermaid and a goddess of oceans**.
 - It is the **first species of the genus Acetabularia discovered in India**.
- **Characteristics:**
 - It resembles **an umbrella or a mushroom**. It has grooves on its cap measuring 15 to 20 mm in diameter.



Note:

- It is made up of **one gigantic cell with a nucleus**. Its nucleus forms a **rhizoid structure**, which facilitates the **algae to attach itself to shallow rocks**. It is **highly regenerative** in nature.
 - **Rhizoids** are a structure in plants and fungi that functions like a root in support or absorption.
- **Significance:**
 - As they have a giant cell **it is advantageous for molecular biologists who study cellular processes**; they can **see it and manipulate it with naked eye**. For this reason, *Acetabularia* is **considered a model organism**.
- **Concern:**
 - They along with various **Coral Reefs** face the threat of sea levels rising due to **Global Warming**.
 - They are highly prone to **Ocean Acidification** caused by global **Greenhouse Gas Emissions** as the plants in the **genus Acetabularia** have rich **calcium carbonate deposits** that account for almost half their dry weight.

Corbett Tiger Reserve: Uttarakhand

Why in News

Recently, the Delhi High Court has asked the **National Tiger Conservation Authority (NTCA)** to consider as representation a petition to **stop the alleged illegal construction** of bridges and walls within tiger breeding habitat of the **Corbett Tiger Reserve**.

National Tiger Conservation Authority

- It is a **statutory body** under the Ministry of Environment, Forests and Climate Change.
- It was **established in 2005** following the **recommendations of the Tiger Task Force**.
- It was **constituted under enabling provisions of the Wildlife (Protection) Act, 1972**, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it.

Key Points

- **About:**
 - It is located in Nainital district of Uttarakhand. The **Project Tiger** was launched in 1973 in **Corbett**

National Park (first National Park of India), which is **part of Corbett Tiger Reserve**.

- The national park was **established in 1936 as Hailey National Park** to protect the endangered Bengal tiger.
- It is **named after Jim Corbett** who played a key role in its establishment.
- The **core area forms the Corbett National Park** while the buffer contains **reserve forests** as well as the **Sonanadi Wildlife Sanctuary**.
- The entire area of the reserve is mountainous and **falls in the Shivalik and Outer Himalaya geological provinces**.
- **Ramganga, Sonanadi, Mandal, Palain and Kosi** are the major rivers flowing through the Reserve.
- **Flora:**
 - According to the **botanical survey of India**, Corbett has **600 species of plants** - trees, shrubs, ferns, grass, climbers, herbs and bamboos. Sal, Khair and Sissoo are the most visible trees found in Corbett.
- **Fauna:**
 - Apart from tigers, Corbett also has leopards. Other mammals such as **jungle cats, barking deer, spotted deer, sambar deer, sloth** etc. are also found there.
- **Other Major Protected Areas of Uttarakhand:**

- **Nanda Devi National Park.**
- Valley of Flowers National Park.
 - Valley of Flowers National Park and Nanda Devi National Park together are a **UNESCO World Heritage Site**.

National Parks & Sanctuaries of Uttarakhand



- **Rajaji National Park.**
- **Gangotri National Park.**
- Govind National Park.

Note:

History

Highlights

- Sree Narayana Guru
- Moplah Rebellion
- Maharaja Ranjit Singh
- Linguistic Culture of Indus Valley
- Hampi
- Jallianwala Bagh Massacre
- Hari Singh Nalwa: The Sikh Warrior

Sree Narayana Guru

Why in News

Recently, the Prime Minister paid tributes to Sree Narayana Guru on his birth anniversary.

- Earlier, the **Vice President of India** launched **“Not Many, But One”**, an English translation of poems of Sree Narayana Gurudev.

Key Points

- **Birth:**
 - Sree Narayana Guru was born on **22nd August, 1856** to Madan Asan and his wife Kuttiamma in Chempazhanthy, a village near **Thiruvananthapuram, Kerala**.
- **Early Days and Education:**
 - His family belonged to the **Ezhava caste and was considered ‘avarna’** according to the social mores of the time.
 - Right from his childhood **he loved solitude** and always indulged himself in deep contemplation. He was **intensely drawn to worship at the local temples** and composed hymns and several devotional songs.
 - From an early age, **he was drawn towards asceticism**. He lived as a hermit in a forest for eight years.
 - He **learned** Vedas, Upanishads, literature, logical rhetoric of Sanskrit, Hatha Yoga and other philosophies.
- **Important Works:**
 - **Against Caste Injustice:**

- He gave the famous slogan **“One Caste, One Religion, One God for All”** (Oru Jathi, Oru Matham, Oru Daivam, Manushyanu).

- In 1888, he **built a temple dedicated to Lord Shiva at Aruvippuram** which was against the caste-based restrictions of the time.

- In one temple he consecrated at Kalavancode, he kept mirrors instead of idols. This symbolised his message that **the divine was within each individual**.

○ Against Conversions:

- He **taught equality but felt the inequalities should not be exploited** to carry out conversions and therefore generate strife in society.
- He organized an **All-Region Conference** in 1923 at Alwaye Advaita Ashram, which was reported to be the **first such event in India**. This was an **effort to counter the religious conversions Ezhava community was susceptible to**.

○ Others:

- Later, in 1903, he established the **Sree Narayana Dharma Paripalana Yogam (SNDP)**, a **charitable society** as the founder and president. The organisation continues to mark its strong presence to this day.
- In 1924, the **Sivagiri pilgrimage** was established to promote the virtues of cleanliness, education, devotion, agriculture, handicrafts, and trade.

➤ **Philosophy of Sree Narayana Guru:**

- He became **one of the greatest proponents and re-evaluators of Advaita Vedanta**, the principle of non-duality put forward by **Adi Shankara**.

➤ **Literary Works:**

Note:

- He wrote various books in different languages. Few of them are: **Advaita Deepika, Asrama, Thevarappathinkangal, etc.**
- **Contribution to National Movement:**
 - **Against the Societal ills:**
 - A remarkable social reformer, he was in the **forefront of the movement for universal temple entry and against the societal ills** like the social discrimination of untouchables.
 - **Impetus for Vaikom Agitation:**
 - He provided the **impetus for Vaikom agitation** which was aimed at temple entry in Travancore for the lower castes. It drew **nationwide attention and appreciation from Mahatma Gandhi.**
 - **Unity through his Poems:**
 - He captured the **essence of Indianness in his poems** which highlighted the unity that lies **beneath the world's apparent diversity.**
- **Contribution to Science:**
 - Emphasized the practice of ideals of cleanliness, promotion of education, agriculture, trade, handicrafts and technical training.
 - His **Adyaropa darsanam (Darsanamala)** explains the creation of the universe.
 - **Daivadasakam and Atmopadesa satakam** are a few examples of how the mystic reflections and insights closely resemble recent advances in physics.
- **Current Relevance of Philosophy:**
 - Gurudev's philosophy of Universal Oneness has **special relevance in the contemporary global context** where the social fabric of many countries and communities are being eroded by hatred, violence, bigotry, sectarianism and other divisive tendencies.
- **Death:**
 - He died on **20th September, 1928** and the day is observed as **Sree Narayana Guru Samadhi** in Kerala.

Moplah Rebellion

Why in News

Recently, a political leader claimed that the **Moplah rebellion**, also known as the **Mappila riots, of 1921** was one of the first manifestations of the **Taliban** mindset in India.

Key Points

- **Moplahs/Mappilas:**
 - The name Mappilla (lit. son-in-law; anglicized form Moplah) is given to **Malayali-speaking Muslims who reside along the entire length of the Malabar Coast of northern Kerala.**
 - By 1921, the **Moplahs formed the largest and fastest growing community in Malabar.** With a population of one million, **32% of that of Malabar as a whole**, the Moplahs were concentrated in South Malabar.
- **Background:**
 - In the sixteenth century when Portuguese traders arrived on the Malabar coast, they noted the **Mappilas to be a mercantile community concentrated in urban centres** and fairly segregated from the local Hindu population.
 - However, with the **rise in Portuguese commercial power, the Mappilas found themselves a competitor** and increasingly started moving inland in search of new economic opportunities.
 - The **shifting of the Mappilas led to a clash of religious identities** both with the local Hindu population and the Portuguese.
- **The Revolt:**
 - **Fuelled by the fiery speeches by Muslim religious leaders and anti-british sentiments**, the Mopillahs launched a **violent rebellion.** Numerous acts of violence were reported and a series of persecutions were committed both against the British and the Hindu landlords.
 - While there are some who call it a **case of religious fanaticism**, there are others who look at it as an instance of **struggle against British authority**, and then there are others who perceive the Malabar rebellion to be a **peasant revolt against unfair practices of the landlords.**
 - While historians continue to debate on the matter, the broad consensus on the episode notes it to have started off as a **struggle against political power, which later took on a communal colour.**
 - Most of the **landlords were Namboodiri Brahmins** while most of the tenants were Mapillah Muslims.
 - The riots led to the mass **killings of over 10,000 Hindus**, raping of women, forced religious

Note:



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conversions, destruction or damage of nearly 300 temples, loot and arson of properties worth crores of rupees and burning of houses belonging to the Hindus.

➤ **Reasons:**

○ **Non-Cooperation & Khilafat Movement:**

- The trigger of the uprising came from the **Non-Cooperation Movement** launched by the Congress in 1920 along with the **Khilafat agitation**.
- The **anti-British sentiment fuelled by these agitations** affected the Muslim Mapillahs.

○ **New Tenancy Laws:**

- After the death of **Tipu Sultan** in 1799 in the Fourth Anglo-Mysore War, Malabar had come under British authority as part of the Madras Presidency.
- The **British had introduced new tenancy laws** that tremendously favoured the landlords known as Janmis and instituted a far more exploitative system for peasants than before.
- The **new laws deprived the peasants of all guaranteed rights to the land**, share in the produce they earlier got and in effect rendered them landless.

➤ **Support:**

- In the initial stages, the movement had the support of **Mahatma Gandhi** and other Indian nationalist leaders, but as it turned violent they distanced themselves from it.

➤ **Collapse:**

- By the **end of 1921, the rebellion was crushed by the British** who had raised a special battalion, the Malabar Special Force for the riot.

➤ **Wagon Tragedy:**

- In November 1921, 67 **Moplah prisoners were killed** when they were being transported in a closed freight wagon from Tirur to the Central Prison in Podanur. They **died of suffocation**. This event is called the Wagon Tragedy.

Major Pre-Independence Agrarian Revolts

- **Santhal Rebellion (1855-56)**- The Santhals take global pride in the Santhal rebellion where over 1,000 Santhals and **leaders of Sidho and Kanho Murmu** rose against domination and battled against the vast East India Company (The Britishers).

- **Indigo Revolt (1859-60)**- It was a **revolt by the farmers against British planters** who had forced them to grow indigo under terms that were greatly unfavourable to the farmers.
- **Pabna Uprisings (1872-1875)**- It was a **resistance movement against the oppression of the zamindars**. It originated in the Yusufshahi pargana, which is now the Sirajganj district within greater Pabna, Bangladesh.
- **Deccan Riots (1875)**- The Deccan peasants uprising was directed mainly **against the excesses of the Marwari and Gujarati money lenders**. The ryots suffered heavy taxation under the **Ryotwari system**. The land revenue was also raised by 50% in 1867.
- **Pagri Sambhal Movement (1907)**- It was a successful farm agitation that forced the British government to repeal three laws related to agriculture. **Bhagat Singh's** uncle Ajit Singh was the force behind this agitation.
- **Peasant Movement in Oudha (1918-1922)**- It was **led by Baba Ramchandra**, a Sanyasi, who had earlier been to Fiji as an indentured laborer. He led a peasant's movement in Awadh against Talukdars and Landlords. He **demanding reduction of rent, abolition of Begar and the boycott of landlords**.
- **Champaran Movement (1917-18)**- The **peasantry on the indigo plantations in the Champaran district of Bihar was excessively oppressed by the European planters** and compelled to grow indigo on at least 3/20th of their land and sell it at prices fixed by the planters. In 1917, **Mahatma Gandhi reached Champaran and defied the orders of district officials for leaving Champaran**.
- **Peasant Agitation in Kheda (1918)**- It was chiefly directed **against the Government**. In 1918, the crops failed in the Kheda district of Gujarat but the **government refused to remit land revenue and insisted on its full collection**. Gandhiji along with **Sardar Vallabhai Patel** supported the peasants and advised them to withhold payment of revenues till their demand for its remission was met.
- **Moplah Rebellion (1921)**- The Moplahs were the Muslim tenants inhabiting the Malabar region where most of the landlords were Hindus. Their **grievances centred around lack of security of tenure, high rents, renewal fees and other oppressive exactions**. The Moplah movement merged with the ongoing Khilafat agitation.

Note:

- **Bardoli Satyagraha (1928)**- It was a movement in the independence struggle **led by Sardar Vallabhai Patel for the farmers of Bardoli against the unjust raising of taxes.**

Maharaja Ranjit Singh

Why in News

Recently, the statue of **Maharaja Ranjit Singh** which was installed in 2019, vandalised by a member of radical outfit **Tehrik-e-Labbaik Pakistan (TLP)**, a **religious organisation** at the Lahore Fort in Pakistan's Punjab province.

Key Points

- **Early Life:**
 - He was born on **13th November, 1780** in Gujranwala, now in Pakistan.
 - He was the **only child of Maha Singh**, on whose death in 1792 he became **chief of the Shukerchakias, a Sikh group.**
 - His inheritance included **Gujranwala town and the surrounding villages**, now in Pakistan.
- **Contribution:**
 - **Founder of the Sikh Empire:**
 - He was the founder of the **Sikh Empire by overthrowing Mislis.**
 - At that time, **Punjab was ruled by powerful chieftains** who had divided the territory into Mislis.
 - **Mislis** refers to the **sovereign states of the Sikh Confederacy** that rose during the **18th century in the Punjab region** in the northern part of the Indian subcontinent after the collapse of the **Mughal Empire.**
 - He ruled the **northwest Indian subcontinent** in the early half of the **19th century.**
 - He was given the title **Lion of Punjab (Sher-e-Punjab)** for his success in freeing Lahore (his capital) from the Afghan invaders.
 - **Modernization of Army:**
 - He combined the **strong points of the traditional Khalsa army** with western advances in warfare to raise Asia's most powerful indigenous army of that time.

- He also **employed a large number of European officers**, especially French, to train his troops.
- He appointed a French General to **modernize his army.**
- **Wide Empire:**
 - Ranjit Singh's **trans-regional empire (spread over several states)** included the former Mughal provinces of Lahore and Multan besides part of Kabul and the entire Peshawar.
 - The boundaries of his state went up to Ladakh — in the **northeast, Khyber pass (route the foreign rulers took to invade India)** in the northwest, and up to Panjnad in the south where the five rivers of Punjab fell into the Indus.
- **Legacy:**
 - The Maharaja was known for his **just and secular rule.** Both **Hindus and Muslims** were given **powerful positions in his darbar.**
 - He turned **Harimandir Sahib** at Amritsar into the **Golden Temple** by covering it with gold.
 - He is also credited with funding **Hazoor Sahib gurudwara** at the **final resting place of Guru Gobind Singh** in Nanded, Maharashtra.
- **Death:**
 - He died at **Lahore in June 1839**, almost exactly 40 years after he entered the city as a conqueror.
 - In little more than six years after his death, the **Sikh state he had created collapsed** because of the **internecine strife of rival chiefs.**
- **International Recognition:**
 - In 2016, the town of **St Tropez in France unveiled the maharaja's bronze statue** as a mark of respect.
 - His **throne is displayed prominently at the Victoria and Albert Museum in London.**
 - In 2018, London hosted an **exhibition that focused on the history of the Sikh Empire** and the **international relations forged by the Maharaja.**

Linguistic Culture of Indus Valley

Why in News

A new research paper has provided some new insight on the **linguistic culture of the Indus Valley Civilization (IVC).**

Note:



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- Earlier, a study found that the **diet of the people of IVC had a dominance of meat**, including extensive eating of beef.
- In July 2021, **UNESCO** announced the Harappan city of **Dholavira in Gujarat as India's 40th world heritage site**.

Key Points

- **IVC & Dravidian Language:**
 - IVCs have their language roots in **Proto-Dravidian**, which is the ancestral language of all the modern Dravidian languages.
 - The **basic vocabulary items of a significant population of the IVC** must have been proto-Dravidian, or that ancestral Dravidian languages must have been spoken in the Indus Valley region.
 - The speakers of **ancestral Dravidian languages had a greater historic presence in northern India** including the Indus Valley region from where they migrated.
 - Proto-Dravidian was **one among several languages** being spoken in the Indus Valley region.
 - The research claims that there were **more than one or one group of languages spoken** across the one-million square kilometre area of IVC.
- **IVC & Other Civilizations:**
 - Few words in **Akkadian (language spoken in ancient Mesopotamia)** had roots in the Indus Valley.
 - The study took into account the thriving **trade relations between the IVC and the Persian Gulf as well as Mesopotamia**.
 - **Mesopotamian civilizations** formed on the banks of the Tigris and Euphrates rivers in what is today Iraq and Kuwait.
 - **Elephant-ivory was one of the luxury goods coveted in the Near East**, and archaeological, and zoological evidence confirms that Indus Valley was the sole supplier of ancient Near East's ivory in the middle-third to early-second millennium BC.
 - Near East, usually the lands around the eastern shores of the **Mediterranean Sea**, including **northeastern Africa, southwestern Asia, and, occasionally, the Balkan Peninsula**.
 - Since people of ancient Persia had functioned as **intermediaries between Mesopotamia and IVC traders**, while exporting IVC's ivory, they had arguably **spread the Indic words to Mesopotamia as well**.

Indus Valley Civilisation

➤ About:

- Indus civilization, also called Indus valley civilization is the **earliest known urban culture of the Indian subcontinent**.
 - It is also called **Harappan Civilization** after the **first city to be excavated, Harappa (Punjab, Pakistan)**.
- Among the **world's three earliest civilizations**—the other two are those of **Mesopotamia** and **Egypt**—the **Indus civilization was the most extensive**.

➤ Time Period:

- It was **established** around **3300 BC**. It **flourished** between **2600 BC** and **1900 BC**. It started declining around 1900 BC and **disappeared** around **1400 BC**.

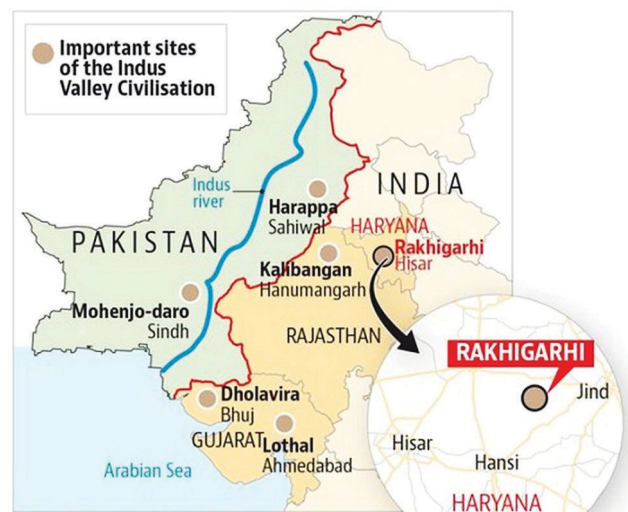
➤ Geographical Extent:

- Covered Punjab, Sindh, Balochistan, Rajasthan, Gujarat and Western Uttar Pradesh.
- It extended from **Sutkagengor** (in Balochistan) in the West to **Alamgirpur** (Western UP) in the East; and from **Mandu** (Jammu) in the North to **Daimabad** (Ahmednagar, Maharashtra) in the South. Some Indus Valley sites have also been found as far away as Afghanistan.

➤ Important Sites:

- **Kalibangan** (Rajasthan), **Lothal**, **Dholavira**, **Rangpur**, **Surkotda** (Gujarat), **Banawali** (Haryana), **Ropar** (Punjab).
- **In Pakistan: Harappa** (on river Ravi), **Mohenjodaro** (on Indus River in Sindh), Chanhudaro (in Sindh).

➤ Some Important Features:



Note:

- The Indus Valley cities show a **level of sophistication and advancement** not seen in other contemporary civilizations.
- Most cities had similar patterns. There were two parts: a **citadel** and the **lower town** showing the presence of hierarchy in society.
- Most cities had a **Great Bath**.
- There were also **granaries**, 2-storied houses made of burnt bricks, closed drainage lines, excellent stormwater, and wastewater management system, weights for measurements, toys, pots, etc.
- A large number of seals have been discovered.
- **Agriculture:**
 - The **first civilization to cultivate cotton**.
 - Animals were **domesticated like sheep, goats, and pigs**.
 - Crops were **wheat, barley, cotton, ragi, dates, and peas**.
 - Trade was conducted with the Sumerians (Mesopotamia).
- **Metal Products:**
 - These were produced including those with **copper, bronze, tin, and lead**. **Gold and silver** were also known.
 - **Iron** was **not known** to them.
- **Religious Beliefs:**
 - No structures like temples or palaces have been found.
 - The people **worshipped male and female deities**.
 - A seal which was named '**Pashupati Seal**' has been excavated and it shows an image of a three-eyed figure.
- **Pottery:**
 - Excellent pieces of **red pottery designed in black** have been excavated.
 - Faience was used to make beads, bangles, earrings, and vessels.
- **Art Forms:**
 - A statuette named '**Dancing Girl**' has been found from Mohenjodaro and is believed to be 4000 years old.
 - A figure of a **bearded Priest-King** has also been found from Mohenjodaro.
- **Other Facts:**
 - **Lothal** was a dockyard.

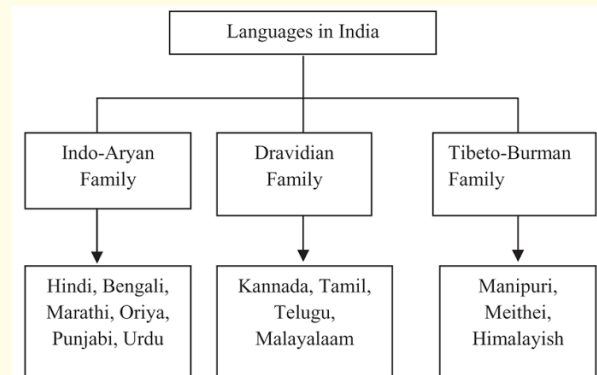
- Disposal of the dead was by burial in wooden coffins.
- The Indus Valley script has not yet been deciphered.

Proto-Dravidian Language

- It is the **linguistic reconstruction of the common ancestor of the Dravidian languages**. Proto-Dravidian gave rise to **21 Dravidian Languages**.

Dravidian languages

- Dravidian languages, a family of some **70 languages spoken primarily in South Asia**. They are spoken by more than 215 million people in India, Pakistan, and Sri Lanka.
- The Dravidian languages with the most speakers are (in descending order of number of speakers) **Telugu, Tamil, Kannada and Malayalam**, all of which have long literary traditions. Smaller literary languages are **Tulu and Kodava**.
 - There are also a number of Dravidian-speaking **Scheduled Tribes**, such as the **Kurukh in Eastern India** and **Gondi in Central India**.
- Dravidian place names along the Arabian Sea coasts and Dravidian grammatical influence such as clusivity in the **Indo-Aryan languages**, namely, Marathi, Gujarati, Marwari, and Sindhi, suggest that **Dravidian languages were once spoken more widely across the Indian subcontinent**.



Hampi

Why in News

Recently, the Vice-president of India visited monuments at the **UNESCO World Heritage Site of Hampi** in Vijayanagara district, Karnataka.

Key Points

Note:



➤ About:

- The site of Hampi comprises mainly the remnants of the capital city of the Vijayanagara Empire (14th-16th century CE), the last great Hindu Kingdom.
- It encompasses an area of 4187, 24 hectares, located in the Tungabhadra basin in Bellary District, Central Karnataka.
- Hampi's spectacular setting is dominated by river **Tungabhadra**, craggy hill ranges and open plains with widespread physical remains.
- One of the unique features of temples at Hampi is the **wide chariot streets flanked by the row of pillared mandapas**.
- Its **Famous places include** Krishna temple complex, Narasimha, Ganesa, Hemakuta group of temples, Achyutaraya temple complex, **Vitthala temple complex**, Pattabhirama temple complex, Lotus Mahal complex, etc.

➤ Background:

- Hampi was the capital of the **Vijayanagara Empire** in the 14th century. The old city of Hampi was a prosperous, wealthy and grand city near the **Tungabhadra River**, with numerous temples, farms and trading markets.
- **By 1500 CE**, Hampi-Vijayanagara was the **world's second-largest medieval-era city after Beijing**, and probably India's richest at that time, attracting traders from Persia and Portugal.
- The **Vijayanagara Empire was defeated by a coalition of sultanates**; its capital was conquered, pillaged and destroyed by sultanate armies in 1565 (**Battle of Talikota**), after which Hampi remained in ruins.

Vijayanagar Empire

- Vijayanagara or "**city of victory**" was the name of both a city and an empire.
- The empire was **founded in the fourteenth century (1336 AD) by Harihara and Bukka of Sangama dynasty**.
 - They made **Hampi as the capital city**.
- It **stretched from the river Krishna in the north to the extreme south of the peninsula**.
- Vijayanagar Empire was **ruled by four important dynasties and they are**:
 - Sangama
 - Saluva
 - Tuluva
 - Aravidu
- **Krishnadevaraya (ruled 1509-29) of the Tuluva dynasty** was the most famous ruler of Vijayanagar.
- He is credited with building some fine temples and adding impressive gopurams to many important south Indian temples.
- He **composed a work on statecraft in Telugu** known as the **Amuktamalyada**.

Jallianwala Bagh Massacre

Why in News

The Prime Minister will inaugurate the **newly renovated Jallianwala Bagh complex and museum** in Amritsar (Punjab).

Key Points

- **About:**
 - The complex is a memorial **dedicated to those who were killed on 13th April, 1919** on orders of Brigadier General Reginald Edward Dyer.
 - The tragedy, **also known as the Massacre of Amritsar**, exposed the inhuman approach of the British when the British troops under General Dyer opened fire into an unarmed crowd.
- **Preclude to the Event:**
 - The massacre of April 1919 wasn't an isolated incident, rather **an incident that happened with a multitude of factors** working in the background.

Note:

- During **World War I (1914–18)**, the British government of India enacted a series of repressive emergency powers that were intended to combat subversive activities.
- The Anarchical and Revolutionary Crimes Act of 1919 popularly known as **Rowlatt Act (Black Act)** which was passed on 10th March, 1919, authorized the government to imprison or confine, without a trial, any person associated with seditious activities which led to nationwide unrest.
- On 13th April 1919, a crowd of at least 10,000 men, women and children gathered in Jallianwala Bagh to **request the release of Dr. Saifuddin Kitchlew and Dr. Satyapal**.
 - The two prominent leaders who were a symbol of Hindu-muslim unity, organised a peaceful protest against the Rowlatt act. They were arrested and taken out of the city.
- Brigadier-General Dyer on hearing about the meeting, deployed his troops and ordered them to open fire. The only exit to the park was sealed and indiscriminate firing took place killing hundreds of innocent civilians.
- **Post Jallianwala Bagh Incident:**
 - The shooting was followed by the **proclamation of martial law in the Punjab that included public floggings and other humiliations**. Indian outrage grew as news of the shooting and subsequent British actions spread throughout the subcontinent.
 - The Bengali poet and Nobel laureate **Rabindranath Tagore** renounced the knighthood that he had received in 1915.
 - Mahatma **Gandhi** gave up the title of **Kaiser-i-Hind**, bestowed by the British for his work during the Boer War (South African War, 1899-1902).
 - The **sole Indian representative at that time in the Viceroy's Executive Council - Chettur Sankaran Nair (1857-1934)** - resigned from his post in protest.
 - **Lord Chelmsford** was the **Viceroy**.
 - On 14th October, 1919, the **Disorders Inquiry Committee** was formed to inquire about the massacre. It later came to be **known as the Hunter Commission** after the name of chairman, Lord William Hunter. It also had Indian members.
 - The Hunter Commission in 1920 censured Dyer for his actions and was directed to resign from his appointment as Brigade Commander.

- The **Indian National Congress** appointed **its own non-official committee** that included Motilal Nehru, C.R. Das, Abbas Tyabji, M.R. Jayakar, and Gandhi to look into the shootings.
- Gandhi soon began organizing his first large-scale and sustained nonviolent protest (satyagraha) campaign, the **Non Cooperation Movement (1920–22)** which proved a step in the direction of ending the British rule of India 25 years later.

Hari Singh Nalwa: The Sikh Warrior

Why in News

Afghanistan, which has earned the **name of graveyard of the empires**, could not be controlled by anyone completely.

- But, **Hari Singh Nalwa**, a legendary Sikh commander, **tamed the turbulent forces at play in Afghanistan** and earned the reputation of the **most feared Sikh warrior** there.

Key Points

- **About:**
 - He was a commander in **Maharaja Ranjit Singh's** force.
 - **Ranjit Singh** was founder and maharaja (1801–39) of the **Sikh kingdom of the Punjab**.
 - He remained **Governor of Kashmir, Hazara and Peshawar**.
 - He **defeated various Afghans** and established control over various regions along the boundary of Afghanistan.
 - Afghanistan was called the unconquered region and it was Hari Singh Nalwa who prevented Afghans from ravaging the North-West Frontier for the first time by taking control over several regions along the Afghanistan border and Khyber pass.
 - He, thus, prevented Afghans from entering Punjab through **Khyber Pass**, which was the main route to enter India by the foreign invaders from 1000 AD till early 19th century.
 - He had **defeated thousands of Hazars**, a tribe of Afghanistan, with less than three times their strength.

Note:

- For his bravery and ferocity, the **government of India released a stamp on the name of Nalwa in 2013.**

➤ **Battles in which he participated:**

- **1807 Battle of Kasur (now in Pakistan):** He defeated Afghani ruler Kutab-ud-din Khan.
- **Battle of Attock (in 1813):** Nalwa along with other commanders won against Azim Khan and his brother Dost Mohammad Khan, who fought on behalf of Shah Mahmud of Kabul and this was the first major victory of the Sikhs over the Durrani Pathans.

- **1818 Battle of Peshawar:** Nalwa took control over Jamrud in 1837, a fort at the entryway to Afghanistan through Khyber Pass.
- Historians maintain that if Maharaja Ranjit Singh and his commander Hari Singh Nalwa would have not won Peshawar and the North West Frontier, which is part of Pakistan now, then this area could have been part of Afghanistan and the invasions of Afghans into Punjab and Delhi would have never stopped.



Note:

Geography

Highlights

- Geo-Tourism in Northeast
- Kilauea Volcano: Hawaii
- Hurricane Ida
- Milky Sea Phenomenon
- Prevalence of Hydro-Meteorological Calamities
- Earthquake Observatories
- Cattle Island: Hirakud Reservoir

Geo-Tourism in Northeast

Why in News

Recently, the **Geological Survey of India (GSI)** has identified certain geological sites across the Northeast for promotion of geo-tourism.

- **12 locations** in the Northeast have been included in the **32 approved geo-tourism or geo-heritage sites** in the country.

Key Points

➤ Geo-heritage Sites:

- Geo-heritage refers to the **geological features** which are **inherently or culturally significant** offering insight to earth's evolution or history to earth science or that can be utilized for education.
- **Geological Survey of India (GSI)** is the **parent body** which is making efforts towards identification and **protection of geo-heritage sites/national geological monuments** in the country.
- **Some of these sites are:** Marine Gondwana fossil park in Chhattisgarh; Siwalik vertebrate fossil park in Himachal Pradesh; Stromatolite park in Rajasthan; Pillow lava in Karnataka, Eparchaeon unconformity and Tirumala hills in Andhra Pradesh, **Lonar Lake** in Maharashtra, etc.

➤ Geo Tourism:

- Geotourism is defined as "tourism that sustains or enhances the geographical character of a place - its environment, culture, aesthetics, heritage, and the well-being of its residents."
- It will **foster community involvement, improve the local economy and create respect for local culture and tradition.**

- India is a country with diverse physical attributes, rich cultural heritage and eventful ancient history and its subcontinent exhibits imprints of varied geological processes through ages and is a storehouse of interesting geological features.

➤ Geo-heritage sites in Northeast:

○ Majuli (Assam):

- A river "island", among the world's largest, in **Brahmaputra river**.
- The island is also the **hub of spiritualism in Assam** because of a number of 'satras' or **Vaishnav monasteries** established by the **15th-16th century saint-reformer Srimanta Sankaradeva** and his disciples.

○ Sangetsar Tso (Arunachal Pradesh):

- It is popularly **known as Madhuri Lake**.
- It is close to the border with Tibet and was formed due to the damming of a river during a major earthquake in 1950.

○ Loktak Lake (Manipur):

- It is the **largest freshwater lake in the Northeast**.
- The attractions of this lake are the '**phumdis**' or **floating biomass** and the 'phumsangs' or huts of fishermen on them.
- The **Keibul Lamjao National Park**, the **only floating wildlife habitat** on earth, is on the southwestern part of the lake and is the **last natural habitat of the sangai or brow-antlered dancing deer**.

○ Others:

- Mawmluh Cave, Mawblei or God's Rock, Therriaghat (**Meghalaya**); Umananda (**Assam**), Chabimura, Unakoti (**Tripura**); Sangetsar Tso (**Arunachal Pradesh**); Reiek Tlang (**Mizoram**);

Note:



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Naga Hill Ophiolite (**Nagaland**); Stromatolite Park (**Sikkim**).

➤ **Related Global Concept:**

○ **UNESCO Global Geoparks:**

- These are **single, unified geographical areas** where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.
- While there are **169 UNESCO Global geoparks** spread across 44 countries, **India is yet to have one of its own.**

Geological Survey of India

- It was set up in **1851 primarily to find coal deposits for the Railways.** Presently, GSI is an attached office to the Ministry of Mines.
- The **main functions** of the GSI relate to creation and updation of national geo-scientific information and mineral resource assessment.
- It is **headquartered in Kolkata.**

Kilauea Volcano: Hawaii

Why in News

Recently, a surge of **earthquakes** and the ground swelling at the **southern part of the crater** was noticed at **Hawaii's Kilauea volcano.**

- A volcano is an **opening on the surface** that allows material warmer than its surroundings to escape from its interior.

Key Points

➤ **About:**

- Kilauea, also called **Mount Kilauea** ("Much Spreading" in Hawaiian), is located in **Hawaii Volcanoes National Park** on the **southeastern part of the island of Hawaii, US.**
 - Kilauea's slopes merge with those of the nearby **volcano Mauna Loa on the west and north.**
- It is an **elongated dome built of lava eruptions from a central crater** and from lines of craters extending along east and southwest rifts, or fissures. The **volcano's 4,090-foot summit** has collapsed to form a **caldera.**



- A **caldera** is a **depression** created after a volcano partially collapses after releasing the majority of its magma chamber in an explosive eruption.

➤ **Eruptive history:**

- The caldera was the site of **nearly continuous activity** during the 19th century and the early part of the 20th century.
- It is **one of the world's most active volcanoes**, having erupted **34 times since 1952.**
 - From **1983 to 2018, it erupted almost continuously.** In December 2020, It erupted at the crater, creating a lake with enough lava to fill 10 Hoover **dams.** That eruption ended in May 2021.

➤ **Recently Erupted Volcanoes:**

- **Sangay Volcano: Ecuador**
- **Taal Volcano: Philippines**
- **Mt. Sinabung, Merapi volcano, Semeru volcano (Indonesia)**

➤ **Volcanoes in India:**

- **Barren Island, Andaman Islands (India's only active volcano)**
- **Narcondam, Andaman Islands**
- **Baratang, Andaman Islands**
- **Deccan Traps, Maharashtra**
- **Dhinodhar Hills, Gujarat**
- **Dhosi Hill, Haryana**

Note:

Hurricane Ida

Why in News

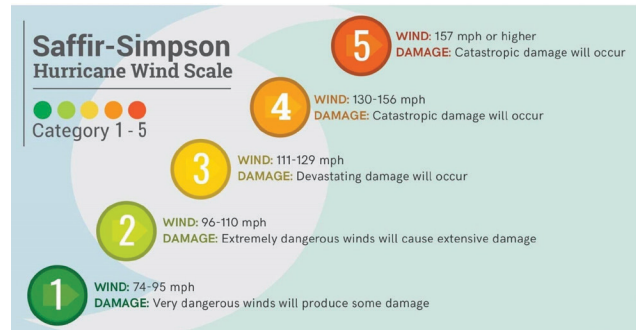
Recently, **Hurricane Ida made landfall in Louisiana, US**. It is an extremely dangerous **Category 4 storm** and **one of the most powerful storms ever to hit the US**.

- It will test the hundreds of miles of new levees that were built after the devastation of **Hurricane Katrina (2005)**, which made landfall 16 years ago in the US.

Key Points

- **About:** Hurricanes are the **biggest and most violent storms** on the planet.
 - Tropical cyclones or hurricanes **use warm, moist air as fuel**, and therefore form over warm Equatorial water.
- **Mechanism:**
 - When the warm, moist air rises upward from the surface of the ocean, it creates an **area of low air pressure below**.
 - When this happens, the air from the surrounding areas rushes to fill this place, eventually rising when it becomes **warm and moist too**.
 - An **eye forms in the centre**. It is the **calmest part of the cyclone**. Before the wind reaches the centre it gets warmed up and rises upwards.
 - When the warm air rises and cools off, the **moisture forms clouds**. This system of clouds and winds continues to grow and spin.
 - This **disturbance is fuelled by the ocean's heat and the water** that evaporates from its surface.
 - Such storm systems rotate faster and faster.
 - Storms that form towards the **north of the equator rotate counterclockwise**, while those that form to the **south spin clockwise** because of the rotation of the Earth.
- **Names in Different Regions of the World:**
 - **Typhoons:** Tropical cyclones are known as Typhoons in the China Sea and Pacific Ocean.
 - **Hurricanes:** In the West Indian islands in the Caribbean Sea and Atlantic Ocean.
 - **Willy-willies:** In north-western Australia and
 - **Tropical Cyclones:** In the Indian Ocean Region.
- **Categorization of Hurricanes:**

- Hurricanes are categorized on the **Saffir-Simpson Hurricane Wind Scale**, which rates them on a scale of 1 to 5 based on wind speed.
- Hurricanes that reach category three or higher are classified as major hurricanes.



Milky Sea Phenomenon

Why in News

The scientists are using new satellite technology **Day/Night Band** to find **glow-in-the-dark milky seas**.

Key Points

- **About:**
 - Also called **mareel**, it is a **rare form of marine bioluminescence** where the **nocturnal ocean surface** produces a widespread, uniform and **steady whitish glow**.
 - Bioluminescence is **light produced by a chemical reaction within a living organism**.
 - About **two or three milky seas occur per year** worldwide, mostly in the waters of the **northwest Indian Ocean** and **off the coast of Indonesia**.
 - Sometimes **exceeding 1,00,000 km² in surface area**, it **persists for days to weeks**, drifting within doldrums amid the prevailing **sea-surface currents** and aligning with narrow ranges of sea-surface temperature and marine biomass in a way that suggests water mass isolation.
- **Causes:**
 - Arises from a **saprophytic relationship between luminous bacteria and microalgae** that expresses on the macroscale.
 - A strain of luminous bacteria called **Vibrio harveyi** colonizing algae at the water's surface has been found.

Note:



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○ Indian Ocean Dipole (IOD):

- During its positive phase, the IOD corresponds to warm/wet conditions with warm pooling waters on the western side of the Indian Ocean, and cool/dry conditions with strong easterly winds on the eastern side.
- These winds generate upwelling of cool, nutrient-rich coastal waters which drift offshore with the currents, leading to algal blooms over a broad region, and potentially, conditions favourable for milky sea genesis.

➤ Purpose:

- Luminous bacteria cause the particles they colonize to glow. The purpose of this glow could be to attract fish that eat them.
- These bacteria thrive in the guts of fishes, so when their populations get too big for their main food supply, a fish's stomach makes a great second option.

➤ Detection:

- **Source of Information:** The awareness of milky seas is recorded primarily from mariner sightings concentrated in the major shipping lanes.
 - In 1995, the low-light satellite measurements provided the first overview of a milky sea, off the Somalia coast.
- **Instrument for Detection:**
 - **Operational Linescan System (OLS):** Carried by Defense Meteorological Satellite Program (DMSP) series of military weather satellites (US).
 - This instrument is capable of detecting very weak light sources.
 - **Day/Night Band (DNB):** It is planned for US' National Oceanic and Atmospheric Administration's and part of the Visible Infrared Imaging Radiometer Suite (VIIRS) and is carried on satellites.
- **Limitations:** These instruments have several limitations from the standpoint of milky sea detection.
 - The OLS cannot detect the more common bioluminescence events associated with disturbed-water due to their, typically small extent.
 - The DNB's spectral response is also sensitive to mesospheric airglow emissions, which occur as both reflected light off the clouds and as direct upwelling emissions to space.

- **Atmospheric gravity waves** modulate the intensity of light and form patterns of brightness having spatial scales similar to those expected from milky seas.

Prevalence of Hydro-Meteorological Calamities

Why in News

Recently, the Ministry of Home Affairs has informed that nearly **6,800 people lost their lives** in the country (**West Bengal tops the list**) over the **past three years** due to **hydro-meteorological calamities** such as **flash floods, landslides and cyclones**.

Key Points

➤ Hydro-Meteorological Calamities:

- **Natural hazards** are severe natural phenomena or events, broadly classified in **two categories: hydro-meteorological and geological hazards**.
- **Tropical cyclones, heavy rainfall, severe thunderstorms, floods and drought** are hydro-meteorological hazards whereas **earthquakes and volcanic eruptions** are grouped under geological hazards.
- **Landslides and avalanches** are caused by a combination of geological and hydro-meteorological factors.

➤ India's Vulnerability:

- The basic reason for the **high vulnerability of the country** to natural disasters is its **unique geographical and geological situations**.
- As far as the vulnerability to disaster is concerned, the four distinctive regions of the country i.e. **Himalayan region, the alluvial plains, the hilly part of the peninsula, and the coastal zone** have their own specific problems.
- While on one hand the **Himalayan region is prone to disasters like earthquakes** and landslides, the **plain is affected by floods** almost every year.
- The **desert part of the country is affected by droughts and famine** while the **coastal zone is susceptible to cyclones and storms**.
- Various **human induced activities** like increasing demographic pressure, deteriorating environmental

Note:

conditions, deforestation, unscientific development, faulty agricultural practices and grazing, unplanned urbanisation, construction of large dams on river channels etc. are also responsible for accelerated impact and increase in frequency of disasters in the country .

➤ **Impact of Disaster:**

○ **Physical and Psychological:**

- Disaster impacts individuals physically (through loss of life, injury, health, disability) as well as psychologically.
- The disaster results in **displacement of people, and displaced populations often face several challenges in new settlements**, in this process the poor become more poor.

○ **Alter Natural Environment:**

- Disaster can alter the natural environment, **loss of habitat to many plants and animals** and cause ecological stress that can result in **biodiversity loss**.

➤ **Disaster Management:**

○ **National Disaster Management Authority of India (NDMA):** It was established in 2005, under the **Disaster Management (DM) Act 2005**.

○ **National Disaster Management Plan (NDMP):** Released in 2016, it is the **first ever national plan** prepared in the country for disaster management.

○ **State Disaster Management Authority (SDMA):** Headed by the **Chief Minister of the respective state**, SDMA lays down the policies and plans for disaster management in the state.

○ **District Disaster Management Authority (DDMA):** **Section 25 of the DM Act** provides for the **constitution of DDMA for every district of a state**.

○ Other measures include National Cyclone Risk Mitigation Project (NCRMP), National Disaster Response Reserve (NDRR), Aapda Mitra Scheme, ETC.

➤ **Challenges in Disaster Risk Reduction:**

○ **Poor Implementation of Monitored Activity:**

- There are insufficient levels of implementation for each monitored activity. For example, Disaster risk management plans or risk sensitive building codes exist but they are not enforced because of a lack of government capacity or public awareness.

○ **Lack of Local Capacities:**

- Weak capacity at the local levels undermines the implementation of Disaster preparedness plans.

○ **Climate Change:**

- Absence of integration of climate change into Disaster risk management plans.

○ **Divergence in Commitments:**

- There is divergence in obtaining political and economic commitments due to other competing needs and priorities such as poverty reduction, social welfare, education etc. requiring greater attention and funding.

○ **Lack of Coordination:**

- Due to poor coordination between stakeholders, there is inadequate access with respect to risk assessment, monitoring, early warning, disaster response and other Disaster related activities.

○ **Insufficient Investment:**

- Insufficient investment in building disaster resilient strategies, also private sector are least contributors in the share of investment.

➤ **Initiatives for Disaster Risk Reduction:**

○ **Sendai Framework for Disaster Risk Reduction 2015-2030:**

- The present Framework applies to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks.

- It is the **successor instrument to the Hyogo Framework for Action (HFA) 2005-2015**.

○ **United Nations Office for Disaster Risk Reduction (UNDRR):**

- UNDRR (formerly UNISDR) is the **United Nations focal point for disaster risk reduction**.

- It **oversees the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030**, supporting countries in its implementation, monitoring and sharing what works in reducing existing risk and preventing the creation of new risk.

○ **Coalition for Disaster Resilient Infrastructure (CDRI):**

- **Established in 2019** under the leadership of India, it aims to **promote the resilience of new and existing infrastructure systems** to climate and disaster risks in support of sustainable development.

Note:



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Earthquake Observatories

Why in News

Recently, the government has announced that **India is going to have 35 more earthquake observatories by the end of the 2021** and aims to add **100 more earthquake observatories by 2026**.

- The announcement came at the inaugural function of the Joint Scientific Assembly of the **International Association of Geomagnetism and Aeronomy (IAGA) – International Association of Seismology and Physics of the Earth Interior (IASPEI)**.

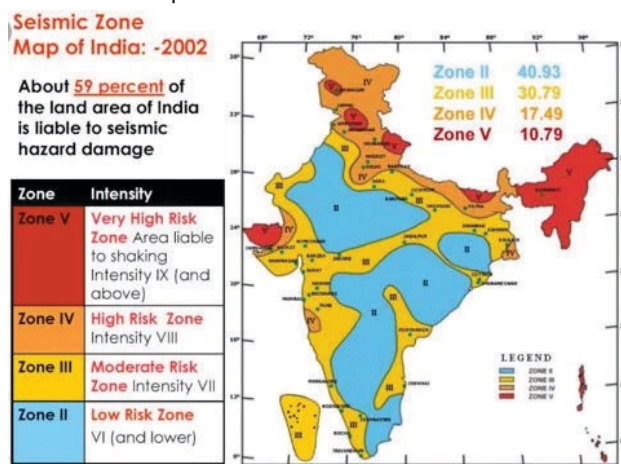
Key Points

- **About Earthquake Observatories:**
 - **National Center for Seismology** (under the **Ministry of Earth Sciences**) is the **nodal agency** of the Government of India for monitoring of earthquake activity in the country.
 - Currently, India has **only 115 earthquake observatories**.
 - The most important aspect of the Earthquake Observatory is to be able to accurately predict the time of the earthquake.
- **Need for Earthquake Observatories:**
 - The occurrence of an earthquake is a natural process, beyond human power. Hence, **prevention** is the only way.
 - Further, the Indian subcontinent is considered as one of the **world's most disaster-prone areas** in terms of **earthquakes, landslides, floods, cyclones, and tsunamis**.
- **About IAGA and IASPEI:**
 - **International Association of Geomagnetism and Aeronomy (IAGA)** welcomes scientists to join in research of **magnetism and aeronomy of the Earth**, of other bodies of the solar system, and of the interplanetary medium and its interaction with these bodies.
 - **International Association of Seismology and Physics of the Earth Interior (IASPEI)** promotes the **study of earthquakes and other seismic sources**, the propagation of seismic waves, and the Earth's internal structure, properties, and processes.
 - These are **semi-autonomous associations** under the **International Union of Geodesy and Geophysics (IUGG)**.

- IUGG is a non-governmental, scientific organization, **established in 1919**.
- It's Secretariat is in **Potsdam, Germany**.
- IUGG is dedicated to the international promotion and coordination of scientific studies of **Earth (physical, chemical, and mathematical) and its environment in space**. These studies include:
 - The shape of the Earth,
 - Gravitational and magnetic fields,
 - Earth's internal structure, composition and tectonics,
 - Earthquakes and elastic wave propagation,
 - Generation of magmas, volcanism and rock formation,
 - Hydrological cycle including snow and ice,
 - All aspects of the oceans, the atmosphere, ionosphere, magnetosphere and solar-terrestrial relations,
 - Analogous problems associated with the Moon and other planets.
- The **Joint Scientific Assembly of IAGA and IASPEI** will act as a catalyst in bringing on board a greater number of researchers and practitioners from the global community to work on issues related to rendering science to society.

➤ Earthquakes in India:

- The earthquake is characterized by **severe shaking of the ground** and severe shaking of structures above the ground.
- According to the **National Disaster Management Authority**, this happens due to the release of the transmitted pressure of moving lithospheric or crustal plates.



Note:

- The Earth's crust is divided into **7 large plates, which are 50 miles thick.**
- They move slowly and steadily over the **Earth's interior and many smaller plates.** Earthquakes are basically tectonic, that is, moving plates are mainly responsible for the shaking in the ground.
- Major earthquakes occur around the Himalayas.
 - However, urbanization, widespread unscientific construction, and exploitation of natural resources have led to an increase in the number of earthquakes in the Indian subcontinent.
- According to seismic zoning mapping, earthquake zones are divided on the basis of the **estimation of the intensity of the earthquake.**
 - India is divided into **4 zones: Zone 2, Zone 3, Zone 4, and Zone 5.**
 - While Zone 2 is the least dangerous, Zone 5 is the most dangerous.
 - Nearly, **59% of India's land area is under a moderate to severe seismic hazard warning,** which means that India is prone to earthquakes of magnitude 7 and above.
- Some of the major earthquakes that occurred in the Indian Subcontinent are: Shillong (1897), Bihar-Nepal (1934), Assam (1950), Bhuj (2001), Kashmir (2005), Sikkim (2011) and Manipur (2016).

Cattle Island: Hirakud Reservoir

Why in News

The **Odisha Forest and Environment Department** is starting **ecotourism packages** for tourists to islands inside the **Hirakud reservoir.**

- **Cattle island**, one of three islands in the Hirakud reservoir, has been selected as a sightseeing destination.

Key Points

- **Hirakud Dam:**
 - **Establishment:**

- It is a multipurpose scheme conceived by **Er. M. Visveswaraya in 1937**, after recurrence of devastating floods in Mahanadi river.
- Its first hydro power was commissioned in 1956.
- It is the longest dam of India.
- **Location:**
 - The dam is built across **river Mahanadi** at about 15 km upstream of Sambalpur town of Odisha.
 - The **Mahanadi River system** is the third largest of peninsular India after Godavari and Krishna, and the largest river of Odisha state.
 - It rises from a place near **Sihawa in Bastar hills** in the state of **Chhattisgarh** to the **south of Amarkantak.**
 - The catchment area of the river extends to **Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra.**
- **Objectives:**
 - **Irrigation:** The project provides 1,55,635 hectares of Kharif and 1,08,385 ha of Rabi irrigation in the districts of **Sambalpur, Bargarh, Bolangir and Subarnapur.**
 - The water released through the power house irrigates further 4,36,000 ha of regions in Mahanadi Delta.
 - **Power Generation:** The installed capacity for power generation is 347.5 MW through its two power houses at Burla, at the right bank and Chiplima, at 22 km downstream of the dam.
 - **Flood Control:** The project provides flood protection to Mahanadi basin including 9500 sq. km of delta area in districts of Cuttack and Puri.
- **Wildlife Sanctuary:**
 - The **Debrigarh wildlife sanctuary** is located near Hirakud dam. It is bounded on the east and north by the huge Hirakud reservoir.
 - It is one of the select few sanctuaries in the state supporting both terrestrial and aquatic biodiversity.



Note:



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Social Issues

Highlights

- *Pneumococcal Conjugate Vaccine*
- *Key Indicators for Asia and the Pacific 2021: ADB*
- *Adoption (First Amendment) Regulations, 2021*
- *Polio*
- *SAMVAD Initiative*
- *India's Water Crisis & Women*

Pneumococcal Conjugate Vaccine

Why in News

Recently, the **Chief Minister of Andhra Pradesh** has launched **Pneumococcal Conjugate Vaccine (PCV) immunisation** drive for infants.

- Earlier in December 2020, **India's first fully indigenously developed pneumococcal conjugate vaccine "Pneumosil"** was launched.

Key Points

- **About:**
 - It prevents **pneumococcal disease**. It can **protect both children and adults from pneumococcal disease**.
 - The vaccine is a **mix of several bacteria of the pneumococci family**, which are known to **cause pneumonia**—hence '**conjugate**' is included in the name of the vaccine.
 - **Conjugate vaccines** are made using a combination of two different components.
- **Pneumococcal disease:**
 - **About:**
 - Pneumococcal disease is a name for any infection caused by bacteria called ***Streptococcus pneumoniae*** or **pneumococcus**. Most people carry pneumococcus in their nose and throat, where the bacteria do not cause any symptoms.
 - However, **sometimes the bacteria grow and spread to other parts of the body** and that's when people become sick.
 - **Effects:**

- These bacteria can cause many types of illnesses, including **pneumonia**, which is an **infection of the lungs**. Pneumococcal bacteria are one of the **most common causes of pneumonia**.
- Besides pneumonia, **pneumococcal bacteria can also cause:**
 - **Ear infections.**
 - **Sinus infections.**
 - **Meningitis** (infection of the tissue covering the brain and spinal cord).
 - **Bacteremia** (infection of the blood).
- Doctors consider some of these **infections "invasive"**. Invasive disease means that **germs invade parts of the body that are normally free from germ**.
- **Vulnerable Population:**
 - Anyone can get **pneumococcal disease**, but **children under 2 years of age**, people with certain medical conditions, **adults 65 years or older**, and **cigarette smokers are at the highest risk**.
- **Need:**
 - Pneumonia had been a major cause of **infant and child mortality**. According to the **World Health Organisation (WHO)**, pneumonia accounts for 15% of all deaths of children under 5 years.
 - It was estimated that the **disease affected around 16 lakh children and caused the death of nearly 68,700 children** across the country in the year 2015.
 - The government of India is ensuring **equitable access to those to the underprivileged and underserved** by making it available under the **Universal Immunization Program (UIP)**.
 - **Sustainable Development Goal 3** calls for an end to **preventable deaths of newborns and children under 5 years of age**. It also specifies

Note:

that **all countries should aim to reduce neonatal mortality** to at least as low as 12 deaths per 1,000 live births and under-five mortality to at least as low as 25 deaths per 1,000 live births by 2030.

- **Neonatal mortality** is defined as death within the **first 28 days of life**.

Key Indicators for Asia and the Pacific 2021: ADB

Why in News

Recently, **Asian Development Bank (ADB)** released a report titled as the **Key Indicators for Asia and the Pacific 2021**.

- The report **demonstrated that the region made substantial progress** in the last two decades with respect to several development targets.
- It presents **comprehensive economic, financial, social and environmental statistics** for ADB's 49 regional members.

Asian Development Bank

➤ About:

- It is a **regional development bank established in 1966**. It has **68 members**. India is a founding member.
- **49 are from within Asia** and the Pacific and 19 outside.
- As of 31st December 2019, ADB's **five largest shareholders are Japan** and the **United States** (each with 15.6% of total shares), the People's Republic of **China** (6.4%), **India** (6.3%), and **Australia** (5.8%).

➤ Aim:

- To promote **social and economic development in Asia and the Pacific**.

➤ Headquarters:

- Manila, Philippines.

Key Points

➤ Poverty:

- The **pandemic** pushed **75-80 million people** in the developing Asia-Pacific **into extreme poverty in 2020**.

- About 203 million people — **5.2% of developing Asia's population — lived in extreme poverty as of 2017**.

- Without **Covid-19**, that number would have declined to an estimated 2.6% in 2020.

➤ Contribution to Global GDP:

- Asia and the Pacific's **economy has grown at a robust pace** in recent years and contributed as much as 35% to global **Gross Domestic Product (GDP)** in current US dollars in 2019.
- But **Covid-19** took a toll just when **weaker domestic investment and slowing global trade and economic activity** started to challenge this momentum.

➤ Household Income:

- A significant number of **households engaged in business were severely affected** by the pandemic.
- Among households engaged in agriculture or relying on wages and salary, **more than half reported an increase in income**, no change or a decrease of less than 26%.

➤ Unemployment:

- As unemployment rates increased by at least 20% in 2020 due to the pandemic across the globe, the **Asia-Pacific region lost an estimated 8% of working hours**.
- As businesses were disrupted, many workers lost their jobs, **leading to higher unemployment and underemployment rates**.

➤ Labour Force Participation:

- From 2019 to 2020, **labour force participation rates among women, on average, declined by 1.4%**, while labour force participation rates **among men declined by 0.8%**.
- **71% of Asia-Pacific's workforce is now in non-agricultural employment**. From 2000-2019, the **region's non-agricultural employment rate grew to 71% from 52%**, one of the fastest growth rates worldwide.

➤ Sustainable Development:

- The pandemic is threatening Asia-Pacific's progress toward critical targets under the **United Nations-mandated Sustainable Development Goals (SDG)**.

➤ Children Related Data:

- The **prevalence of undernourishment decreased** from more than 521 million people in 2001 to 316 million in 2019.

Note:



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- Almost all learners in the region were affected by closure of schools during the Covid-19 pandemic.
- Despite efforts to continue school activities through remote learning, **poorer students suffered greater disruption** to their education during the pandemic.

Adoption (First Amendment) Regulations, 2021

Why in News

According to a new clause in the adoption regulations, **Indian diplomatic missions abroad will now be in charge of safeguarding adopted children whose parents move overseas with the child within two years of adoption.**

- So far, **Indian missions have had a role in inter-country adoption** of Indian children limited to kids adopted by **Non Resident Indians (NRIs), Overseas Citizens of India or foreign parents.**

Key Points

- **Adoption (First Amendment) Regulations, 2021:**
 - It **amends the Adoption Regulations, 2017.**
 - The amendment has been notified in accordance with the relevant sections of the **Juvenile Justice (Care and Protection of Children) Act, 2015 (2 of 2016)** and it amends **Adoption Regulations, 2017.**
 - Recently passed **Juvenile Justice (Care and Protection of Children) Amendment Act, 2021**, seeks to **strengthen and streamline the provisions for protection and adoption of children.**
 - It provides that **instead of the court, the District Magistrate (including Additional District Magistrate) will issue such adoption orders.**
 - It has been made by the **Central Adoption Resource Authority** and has been notified by the **Woman and Child Development Ministry.**
 - **CARA** is a statutory body of the Ministry of Women & Child Development. It functions as the nodal body for adoption of Indian children and is **mandated to monitor and regulate in-country and inter-country adoptions.**
- **Need:**

- **Some cases came to the attention of the authorities** recently when Indian children were adopted by parents in India and who ended up moving abroad later, hence going out of the purview of Indian authorities and also not falling under purview of Indian Missions abroad.

- Such children are vulnerable as they can be **neglected, exploited, maltreated or abuse of these children can happen.**

➤ Current Responsibility of Indian Missions:

- The **Indian diplomatic missions** presently send **progress reports of an adopted child on quarterly basis in the first year and on six-monthly basis in the second year**, from the date of arrival of the child in the receiving country.
- The **Missions are also expected to contact the central authority or other authorities** in the receiving countries to ensure safeguards of children of Indian origin adopted by Non-Resident Indian or Overseas Citizens of India or foreign parents.
- In case of **disruption of adoption**, the **foreign missions shall send a report in this regard at the earliest**, and render necessary help and facilitate the repatriation of the child in case required.

➤ Persons Eligible to Adopt Child under Adoption Regulations, 2017:

- The **Prospective Adoptive Parents (PAP)** "should be physically, mentally and emotionally stable, financially capable and shall not have any life-threatening medical condition."
- A **person can adopt irrespective of their marital status** and whether or not he or she has a biological son or daughter.
- A **single female can adopt a child of any gender but a single male shall not be eligible to adopt a girl child.** In the case of a married couple, both spouses should give their consent for adoption.
- "No child shall be given in adoption to a couple unless they have **at least two years of stable marital relationship**,"
- **Couples with three or more children shall not be considered for adoption** "except in case of special need children", "hard to place children" and in case of "relative adoption and adoption by step-parent".

Note:

Polio

Why in News

Recently, India has decided to vaccinate Afghanistan returnees against **Polio** for free as a preventive measure against the **Wild Polio Virus**.

- **Afghanistan** and **Pakistan** are the only two countries in the world where polio is still **Endemic**.

Key Points

➤ About:

- Polio is a crippling and potentially **deadly viral infectious disease** that affects the nervous system.
- There are three individual and immunologically **distinct wild poliovirus strains**:
 - **Wild Poliovirus type 1 (WPV1)**
 - **Wild Poliovirus type 2 (WPV2)**
 - **Wild Poliovirus type 3 (WPV3)**
- Symptomatically, all three strains are identical, in that **they cause irreversible paralysis or even death**. However, there are **genetic and virological differences, which make these three strains separate viruses** which must each be eradicated individually.

➤ Spread:

- The virus is transmitted by **person-to-person mainly through the faecal-oral route** or, less frequently, by a common vehicle (for example, through contaminated water or food).
- It largely **affects children under 5 years of age**. The virus **multiplies in the intestine, from where it can invade the nervous system and can cause paralysis**.

➤ Symptoms:

- Most people with polio do not feel sick. Some people have only minor symptoms, such as fever, tiredness, nausea, headache, pain in the arms and legs, etc.
- In rare cases, polio infection **causes permanent loss of muscle function (paralysis)**.
- Polio can be fatal **if the muscles used for breathing are paralysed or if there is an infection of the brain**.

➤ Prevention and Cure:

- There is no cure, but it can be prevented through **Immunisation**.

➤ Vaccines:

- **Oral Polio Vaccine (OPV)**: It is given orally as a birth dose for institutional deliveries, then primary three doses at 6, 10 and 14 weeks and one booster dose at 16-24 months of age.
- **Injectable Polio Vaccine (IPV)**: It is introduced as an additional dose along with the 3rd dose of **DPT (Diphtheria, Pertussis and Tetanus)** under the **Universal Immunisation Programme (UIP)**.

➤ Recent Outbreaks:

- In 2019, polio outbreaks were recorded in the **Philippines, Malaysia, Ghana, Myanmar, China, Cameroon, Indonesia and Iran**, which were mostly vaccine-derived in which a rare strain of the virus genetically mutated from the strain in the vaccine.
 - According to the **WHO (World Health Organisation)**, if the **oral vaccine-virus** is excreted and allowed to circulate in an unimmunised or under-immunised population for at least 12 months, it can **mutate to cause infections**.

➤ India & Polio:

- India received **polio-free certification by the WHO in 2014**, after three years of zero cases.
 - This achievement has been spurred by the successful **Pulse Polio Campaign in which all children were administered polio drops**.
 - The last case due to wild poliovirus in the country was detected on 13th January 2011.

Polio Eradication Measures

➤ Global:

○ Global Polio Eradication Initiative:

- It was launched in 1988 by the **Global Polio Eradication Initiative (GPEI)**, by national governments and WHO. Presently, 80% of the world's population is now living in certified polio-free regions.
 - An estimated 1.5 million childhood deaths have been prevented, through the systemic administration of vitamin A during polio immunization activities.

○ World Polio Day:

- It is observed every year on **24th October** in order to call on countries to stay vigilant in their fight against the disease.

➤ Indian:

Note:



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- **Pulse Polio Programme:**
 - It was started with an objective of achieving hundred percent coverage under Oral Polio Vaccine.
- **Intensified Mission Indradhanush 2.0:**
 - It was a nationwide immunisation drive to mark the 25 years of **Pulse polio programme** (2019-20).
- **Universal Immunization Programme (UIP):**
 - It was launched in 1985 with the modification to '**Expanded Programme of Immunization (EPI)**'.
 - The **objectives of the Programme include:** Rapidly increasing immunization coverage, Improving the quality of services, Establishing a reliable cold chain system to the health facility level, Introducing a district-wise system for monitoring of performance, Achieving self-sufficiency in vaccine production.

SAMVAD Initiative

Why in News

Recently, the **Ministry of Women and Child Development** has launched the **2nd phase of the SAMVAD programme**. The second phase was **launched on the completion of one year of programme**.

- The programme is **aimed at mental health outreach for children** who are abandoned and orphaned, child survivors of trafficking, or in conflict with law.
- Earlier, the government had announced a special "**PM-CARES for Children**" scheme for all those orphaned due to **Covid-19**.

Key Points

- **Stands for:** **Support, Advocacy & Mental health interventions** for children in **Vulnerable circumstances and Distress (SAMVAD)**.
- **Funded By:** The initiative is funded by the Ministry of Women and Child Development.
- **Implementing Body:** It is led by the **National Institute of Mental Health and Neuro Sciences (NIMHANS)**.
 - The NIMHANS is the apex centre of mental health and neuroscience education. It operates autonomously **under the Ministry of Health and Family Welfare**.

- Recently, on the request of the Ministry of Home Affairs, NIMHANS, issued a set of **guidelines on the management of mental health issues** of the **prisoners and prison staff**.

➤ Purpose:

- It is a **national initiative and integrated resource** that works in **child protection, mental health and psychosocial care of children** in difficult circumstances.
 - It encompasses a **specialized training curriculum** on childhood trauma, interventions for children in conflict with the law, forensics in child and adolescent psychiatry and mental health.
 - **Education and mental health support** to children with special needs, protection and care in the context of adoption.
 - The initiative is providing coping mechanisms for children in distress by **training close to 1 lakh stakeholders** comprising Child Protection Functionaries, tele-counsellors, educators, law professionals among others.
- **Integration with Local Bodies:** The initiative aims to **foster care and integration of child protection and mental health** in the **Panchayati Raj systems** in **aspirational districts** across the country to facilitate awareness generation and improve service delivery at the grassroot level.

India's Water Crisis & Women

Why in News

India is **water-stressed due to changing weather patterns and repeated droughts**. And the worst **sufferers of this crisis are mostly women**.

- Water scarcity in India is expected to worsen as the **overall population is expected to increase to 1.6 billion by the year 2050**.

Key Points

➤ Water Crisis:

- Although **India has 16% of the world's population**, the country possesses only **4% of the world's freshwater resources**.
- In recent times, the water crisis in India has become very critical, **affecting millions of people across India**.

Note:



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- As many as **256 of 700 districts in India** have reported '**critical**' or '**overexploited**' groundwater levels according to the most recent **Central Ground Water Board data** (from 2017).
 - Three-fourths of India's rural families **lack access to piped, drinkable water and must rely on unsafe sources**.
 - India has become the **world's largest extractor of groundwater**, accounting for 25 % of the total. Some **70 % of our water sources** are contaminated and our major rivers are dying because of pollution.
- **Causes of Water Crisis:**
- **Population Growth:**
 - There is **insufficient water per person** as a result of population growth.
 - The total amount of **usable water in India has been estimated to be between 700 to 1,200 billion cubic meters (bcm)**
 - A country is considered water-stressed if it has less than 1,700 cubic meters per person per year.
 - **Poor Water Quality:**
 - Water in most rivers in India is largely **not fit for drinking**, and in many stretches not even fit for bathing.
 - Poor water quality is the result of **insufficient and delayed investment in urban water-treatment facilities**.
 - Moreover, **industrial effluent standards are not enforced** because the state pollution control boards have inadequate technical and human resources.
 - **Dwindling Groundwater Supplies:**
 - There is dwindling groundwater supplies due to **over-extraction by farmers**.
- **Deficient rain** in some areas is also **depleting ground water**.
 - **Unsustainable consumption:**
 - Wells, ponds and tanks are drying up as ground-water resources come under **increasing pressure due to over-reliance and unsustainable consumption**.
 - Unequal distribution of water, **contamination/depletion of local water bodies** due to pollution and no proper water treatment facility augment the water crisis in India.
- **Impact on Women:**
- **Vulnerability of Women:**
 - The crisis of water only puts them at a higher risk of vulnerability. Fetching water in India has been perceived as a **woman's job for centuries**.
 - Women, especially in the rural areas, **walk miles to collect water from the nearest source**.
 - **Reduced Access to Sanitation:**
 - Their marginalisation is compounded by the **indignity and insecurity** of not having a private spot to fulfil their toilet needs.
 - This whole system of women being forced to be water carriers leads to them having very less time for themselves. This further **reduces access to clean sanitation, better physical and mental health of women**.
 - **Water-Wives:**
 - The entire water management by women has led to **polygamy in one drought-prone village of Maharashtra**. This involves having more than one spouse to collect water. The arrangement is termed as '**water wives**'.
 - This is undoubtedly an example of regressive thinking — of women being seen as **substitutes for water pipes or tankers**.



Note:

Art & Culture

Highlights

- PRASHAD Scheme
- Parsi New Year: Navroz
- Saroop of Guru Granth Sahib
- World Sanskrit Day
- Shankaracharya Temple
- Uttarakhand's Narayankoti Temple: Adopt a Heritage Project

PRASHAD Scheme

Why in News

Recently, the Prime Minister has inaugurated various projects in Somnath, Gujarat under **PRASHAD (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive)** scheme at a total cost of over Rs 47 crore.

Key Points

➤ About:

- The **Somnath Exhibition Centre**, developed on the premises of 'Tourist Facilitation Centre', displays the exhibits from dismantled parts of the old Somnath temple and its sculptures having **Nagara style Temple Architecture** of old Somnath.
 - This temple is **also referred to as Ahilyabai Temple** since it was built by queen Ahilyabai of Indore when she found that the old temple was in ruins.
- **Shree Parvati Temple** is proposed to be constructed with a total outlay of Rs 30 crore. This will include temple construction in **Sompura Salats Style**, development of Garbha Griha and Nritya Mandap.

➤ PRASHAD Scheme:

○ Launch:

- The 'National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASHAD)' 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 PRASHAD to "National Mission on Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD)" in October 2017.

○ Implementing Agency:

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

○ Objective:

- Rejuvenation and spiritual augmentation of important national/ global pilgrimage and heritage sites.
- Follow community-based development and create awareness among the local communities.
- Integrated tourism development of heritage city, local arts, culture, handicrafts, cuisine, etc., to generate livelihood.
- Strengthen the mechanism for bridging the infrastructural gaps.

○ Funding:

- Under it, the Ministry of Tourism provides **Central Financial Assistance (CFA) to State Governments for promoting tourism** at identified destinations.
- For components within public funding under this scheme, the Central Government will provide a 100% fund.
- For improved sustainability of the project, it also seeks to involve **Public Private Partnership (PPP)** and **Corporate Social Responsibility (CSR)** as well.

➤ Nagara or North Indian Temple Style:

- In North India it is common for **an entire temple to be built on a stone platform with steps leading up to it**. Further, unlike in South India it does not usually have elaborate boundary walls or gateways.
- While the earliest temples had just one tower, or shikhara, later temples had several. The garbhagriha is always located directly under the tallest tower.

Note:

- There are many subdivisions of nagara temples depending on the shape of the shikhara.
- There are different names for the various parts of the temple in different parts of India.
 - The most common name for the simple shikhara which is square at the base and whose walls curve or slope inward to a point on top is called the 'latina' or the rekha-prasada type of shikhara.
 - The second major type of architectural form in the nagara order is the phamsana, which tends to be broader and shorter than latina ones.
 - The third main sub-type of the nagara building is generally called the valabhi type. These are rectangular buildings with a roof that rises into a vaulted chamber.

Sompura Salats (Temple Architects)

➤ About:

- The Sompuras (or Sompura Salat) are a group of people who took up artistic and masonry works as an occupation and branched off from the Sompura Brahmin community.
- They are a section of Sompura Brahmin or Prabhas Patan which was once called Somapura because it was supposed to have been founded by Chandra (the Moon God).
 - However, Sompura Brahmins do not accept them as proper Brahmins.
- They maintain the clan as a strict rule for marriage.

➤ Origin:

- The Sompuras originally hailed from Patna, Gujarat, and were invited to settle in Chittorgarh.

➤ Work:

- During the past five centuries, they have been involved in the construction and restoration of numerous Jain temples in Gujarat and southern Rajasthan, as well as temples built by Jains from regions in other parts of India.
- Though traditions in the family call for elders to pass the learnings of the Shilpa Shastras and the art of ancient temple architecture to the next generation, the modern age calls for certain upgrades to that technique.
- Ram janm Bhumi Temple is also designed by the Sompura Family.

Parsi New Year: Navroz

Why in News

Navroz festival is being celebrated in India on 16th August in India.

- Across the world, Navroz is celebrated at the time of the vernal equinox (marking the start of spring) in the Northern Hemisphere.

Key Points

➤ About:

- Navroz is also known as Parsi New Year.
- In Persian, 'Nav' stands for new, and 'Roz' stands for the day, which literally translates to 'new day'.
- Though celebrated in March globally, Navroz arrives 200 days later in India and is celebrated in the month of August as the Parsis here follow the Shahenshahi calendar that doesn't account for leap years.
 - In India, Navroz is also known as Jamshed-i-Navroz, after the Persian King, Jamshed. The king Jamshed is credited with having created the Shahenshahi calendar.
- Interestingly in India, people celebrate it twice a year - first according to the Iranian calendar and the second according to the Shahenshahi calendar which is followed by people here and in Pakistan. The festival falls between July and August.
- The tradition is observed by Iranians and Zoroastrian around the world.
- Navroz was inscribed in the list of UNESCO Intangible Cultural Heritage of Humanity of India in 2009.
 - This coveted list is made up of those intangible heritage elements that help demonstrate diversity of cultural heritage and raise awareness about its importance.

➤ Zoroastrianism:

- Zoroastrianism, one of the earliest known monotheistic faiths, is practised by Parsis.
- It was created over 3,500 years ago in ancient Iran by Prophet Zarathustra.
- It was the official religion of Persia (now Iran) from 650 BCE until the emergence of Islam in the 7th century, and it was one of the most important faiths in the ancient world for over 1000 years.

Note:



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- When the Islamic troops invaded Persia, numerous Zoroastrians fled to India (Gujarat) and Pakistan.
- The Parsis ('Parsi' is Gujarati for Persian) are the largest single group in India, with an estimated 2.6 million Zoroastrians worldwide.
- Zoroastrians (Parsis) are one of the notified minority communities.

Traditional New Year Festivals

- **Chaitra Sukladi:**
 - It marks the beginning of the new year of the Vikram Samvat also known as the Vedic [Hindu] calendar.
 - Vikram Samvat is based on the day when the emperor Vikramaditya defeated Sakas, invaded Ujjain and called for a new era.
- **Gudi Padwa and Ugadi:**
 - These festivals are celebrated by the people in the Deccan region including Karnataka, Andhra Pradesh and Maharashtra.
- **Navreh:**
 - It is the lunar New Year that is celebrated in Kashmir. It falls on the very first day of the Chaitra Navratras.
- **Sajibu Cheiraoba:**
 - It is celebrated by Meiteis (an ethnic group in Manipur) which is observed on the first day of Manipur lunar month Shajibu, which falls in the month of April every year.
- **Cheti Chand:**
 - It is celebrated by Sindhi community. Chaitra month is called 'Chet' in Sindhi.
 - The day commemorates the birth anniversary of Ishta Deva Uderolal/Jhulelal, the patron saint of Sindhis.
- **Bihu:**
 - It is celebrated three times a year.
 - Rongali or Bohag Bihu is the Assamese new year and spring festival.
- **Baisakhi:**
 - It is celebrated as the Indian thanksgiving day by farmers.
 - It also has religious significance for the Sikhs community as the foundation of the Khalsa Panth was laid on this day by Guru Gobind Singh.

➤ Losoong:

- Also known as Namsoong, it is the Sikkimese New Year.
- It is usually the time when the farmers rejoice and celebrate their harvest.

Saroop of Guru Granth Sahib

Why in News

Recently, India has brought three saroops of **Guru Granth Sahib** (Sikh Holy Book) from Afghanistan, now just three more remain in Afghanistan.

- There were 13 saroops in Afghanistan, of which seven were already shifted to India earlier.

Key Points

➤ About:

- Saroop is a physical copy of Sri Guru Granth Sahib, also called Bir in Punjabi. Every Bir has 1,430 pages, which are referred to as Ang. The verses on every page remain the same.
- The Sikhs consider the saroop of Guru Granth Sahib a living guru and treat it with utmost respect.
 - They believe that all the 10 Gurus were the same spirit in different bodies, and the Guru Granth Sahib is their eternal physical and spiritual form.

Sikhism

- The word 'Sikh' in the Punjabi language means 'disciple'. Sikhs are the disciples of God who follow the writings and teachings of the Ten Sikh Gurus.
- Sikhs believe in one God (Monotheism). The Sikhs call their faith Gurmat (Punjabi: "the Way of the Guru").
- Sikhism was established by Guru Nanak (1469–1539) and subsequently led by a succession of nine other Gurus.
 - The development of Sikhism was influenced by the Bhakti movement and Vaishnava Hinduism.
- The Islamic era persecution of Sikhs triggered the founding of the Khalsa, as an order for freedom of conscience and religion.
- Guru Gobind Singh established the Khalsa order (meaning 'The Pure'), soldier-saints.
 - The Khalsa upholds the highest Sikh virtues of commitment, dedication and a social conscience and practice the faith of 5 Ks, which are,

Note:

- Kesh (uncut hair), Kangha (a wooden comb), Kara (a iron bracelet), Kachera (cotton underpants) and Kirpan (an iron dagger).
- It preaches that **people of different races, religions, or sex are all equal** in the eyes of God.
- **The Sikh Literature:**
 - The **Adi Granth** is believed by Sikhs to be the abode of the eternal Guru, and for that reason it is **known to all Sikhs as the Guru Granth Sahib**.
 - The **Dasam Granth** is controversial in the Panth because of questions concerning its authorship and composition.

World Sanskrit Day

Why in News

World Sanskrit Day (Viswa Samskrita Dinam) was celebrated on **22nd August 2021**.

- In India, Sanskrit is a **Classical** and an **Eighth Schedule** language.
- In 2020, the **Uttarakhand Government** decided to develop '**Sanskrit Grams**' across the state to teach use of Sanskrit regularly.

Key Points

- **About:**
 - It is an **annual event aimed to promote revival and maintenance of Sanskrit Language**.
 - It is **celebrated on Poornima day (Full Moon) of the Shravana month** in the Hindu calendar.
 - The day essentially speaks of the **importance of learning and knowing it, despite it being not as widely spoken as in ancient times**.
 - The Day was **celebrated for the first time in the year 1969 after the Union ministry of education issued notifications** to state and central governments.
 - The **Sanskrit organisation Samskrita Bharati (NGO)** is involved in promoting the day.
- **Some Important Facts about Sanskrit Language:**
 - It is considered to be **one of the oldest languages in the world**. It is an **old Indo-Aryan language** in which the most ancient documents, **Vedas**, are **composed in what is called Vedic Sanskrit**.
 - Sanskrit used to be a **pan-Indian language in the Vedic period** and most languages in the country have branched out of Sanskrit.

- It lost, somehow, to modern derivations and regional dialects.
- Classical Sanskrit, a language close to late Vedic as then used in the northwest of the subcontinent, was elegantly **described in one of the finest grammars ever produced, the Aṣṭādhyāyī** ("Eight Chapters") **composed by Pāṇini** (c. 6th–5th century BCE).
- Sanskrit has been written **both in Devanāgarī script and in various regional scripts**, such as Śāradā from the north (Kashmir), Bāṅglā (Bengali) in the east, Gujarātī in the west, and various **southern scripts, including the Grantha alphabet**, which was especially devised for Sanskrit texts.
- It is considered a **scientific language and is believed to be the most computer-friendly language**.
 - In 1786, English Philologist William Jones suggested in his book '**The Sanscrit Language**' that Greek and Latin were related to Sanskrit.
- The language, however, is **not entirely dead**. A village in the Shimoga district of Karnataka, called Mattur, is believed to have preserved the language.
- The **only Sanskrit newspaper in the world is called 'Sudharma'**. The newspaper has been published since 1970 from Mysore in Karnataka and is also available online.
- Some of the eminent **Sanskrit authors are Panini, Patanjali, Adi Shankaracharya, Ved Vyas, Kalidas etc.**
- **Important Authors and Works in Sanskrit:**
 - **Bhāsa** (for example, his Svapnavāsavadatta - Vāsavadatta in a Dream), who is assigned widely varying dates but definitely worked prior to Kālidāsa, who mentions him.
 - **Kālidāsa**, dated anywhere from the 1st century BCE to the 4th century CE, whose works include Śakuntalā, Vikramorvaśīya, Kumārasambhava and Raghuvamśa.
 - Śūdraka and his Mṛcchakatika ("Little Clay Cart"), possibly dating to the 3rd century CE.
 - **Ashvaghoṣa's Buddhacarita** is one of the finest examples of Buddhist literature.
 - **Bhāravi and his Kirātārjunīya** ("Arjuna and the Kirāta"), from approximately the 7th century.
 - **Māgha**, whose Śīsupālavadha ("The Slaying of Śīsupāla") dates to the late 7th century.

Note:



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- The two epics **Rāmāyaṇa** ("Life of Rāma") and **Mahābhārata** ("Great Tale of the Bhāratas") were also composed in Sanskrit, and the former is esteemed as the first poetic work (ādikāvya) of India.

Shankaracharya Temple

Why in News

Recently, as per the age-old tradition related to the annual Amarnath pilgrimage, the **holy mace (Chhari Mubarak) of Lord Shiva** was brought to the ancient Shankaracharya Temple.

Key Points

➤ About:

- It is also known as the **Jyesteshwara temple** or **Pas-Pahar by Buddhists**. Persians and Jews call it **Bagh-i-sulaiman** or the **Garden of King Solomon**. Persian inscriptions are also found inside the temple.
- It is on **top of the Shankaracharya Hill (also called Hill of Solomon) on the Zabarwan Mountain in Srinagar, Kashmir**.



- The temple is considered as the **oldest temple of the valley of Kashmir**.

- It is **dedicated to Lord Shiva**. The temple is **at a height of 1,000 feet** above the plain and overlooks the city of Srinagar.
- The temple **dates to 200 BC**, although the **present structure probably dates to the 9th century AD**.
- It was **visited by Adi Shankara** and has ever since **been associated with him**; this is how the temple got the name Shankaracharya.
- **Structure:**
 - This ancient temple is built in the **indigenous early Kashmiri style of architecture** and embraces the techniques prevailing in those days.
 - The early **Shihara style** is prominently evident in the building design and is indicative of a **horseshoe arch type of pattern**.
 - It is a **massive stone structure built on a high octagonal plinth** about thirty feet high.
 - The **plinth is surmounted by a low parapet wall**. The shrine consists of a cell, circular inside, with a diameter of thirteen feet.
 - The **square building of the temple is supported by the basement**.

Shankaracharya

➤ About:

- He was also known as **Adi Shankara**. Born in **Kaladi, Kerala in 788 CE**.
- Propounded the **Doctrine of Advaita (Monism)** and **wrote many commentaries** on the Vedic canon (Upanishads, Brahma Sutras and Bhagavad Gita) in Sanskrit.

➤ Major Work:

- **Brahmasutrabhasya** (Bhashya or commentary on the Brahma Sutra).
- **Bhagovinda Stotra**.
- **Nirvana Shatakam**.

➤ Other Contributions:

- Was responsible for **reviving Hinduism in India** to a great extent when Buddhism was gaining popularity.
- Established four Mathas in the four corners of India and the tradition continues to this day.

Note:

Uttarakhand's Narayankoti Temple: Adopt a Heritage Project

Why in News

Recently, the Narayankoti temple (Uttarakhand) has been included under the Centre's **Adopt a Heritage project**.



Key Points

➤ Adopt a Heritage Project:

○ About:

- Launched on 27th September, 2017 (**World Tourism Day**), it is a collaborative effort by the Ministry of Tourism, Ministry of Culture and Archaeological Survey of India (ASI), State/ UTs Governments.

○ Aim:

- To develop **tourism amenities** at heritage/ natural/ tourist sites spread across India to make them tourist friendly, in a planned and phased manner.

○ Implementation:

- The **sites/monuments are selected** on the **basis of tourist footfall and visibility** and can be **adopted by private and public sector companies and individuals** — known as **Monument Mitras** — **for an initial period of five years**.
- The Monument Mitras are **selected by the 'oversight and vision committee,'** co-chaired by the **Tourism Secretary and the Culture Secretary**, on the basis of the bidder's 'vision' for development of all amenities at the heritage site.
 - There is **no financial bid involved**.
- The corporate sector is expected to use **Corporate Social Responsibility (CSR)** funds for the upkeep of the site.

➤ Narayankoti Temple:

- The temple is a **group of ancient temples**, about 2 km from Guptkashi on the **Rudraprayag-Gaurikund highway**.
- This is the **only place in the country which has nine planetary temples in a group** that are a "symbol of nine planets".
- It is devoted to **Lakshmi Narayana** who is associated with Pandavas.
- It is believed that these temples were **constructed in the 9th century**.



Note:

Security

Highlights

- Bodoland Territorial Region (BTR)
- Upheaval In Meghalaya
- Al-Mohed Al-Hindi Exercise: India-Saudi Arabia

Bodoland Territorial Region (BTR)

Why in News

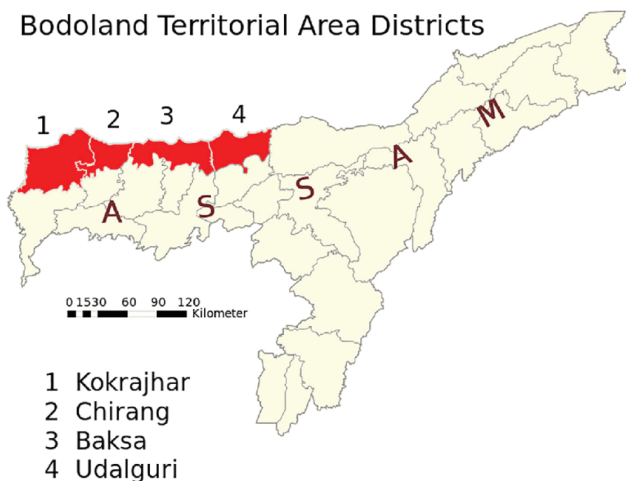
The people displaced by ethnic and communal riots in areas under the **Bodoland Territorial Region (BTR)** since 1996 are set to return to the homes they left behind.

- The **Ministry of Home Affairs (MHA)**, the **Assam government** and the **Bodo groups** signed a **tripartite agreement** to redraw, rename and change power-sharing agreement in the **Bodoland Territorial Area District (BTAD)** in Assam.

Key Points

- **About:**
 - **Population:** Bodos are the **single largest community** among the **notified Scheduled Tribes in Assam**. They constitute about **5-6% of Assam's population**.
 - **Kokrajhar, Baksa, Udalguri and Chirang** districts in Assam constitute the Bodo Territorial Area District (BTAD) and are home to several ethnic groups.

Bodoland Territorial Area Districts



Dispute:

- **Demand of Separate State:** The **first organised demand for a Bodo state** came in 1967-68 under the banner of the political party called **Plains Tribals Council of Assam**.
- **Assam Accord:** In 1985, when the Assam Movement culminated in the Assam Accord, many Bodos saw it as essentially focusing on the interests of the Assamese-speaking community.
 - As a result of this, several Bodo groups led by the **All Bodo Students Union (ABSU)** and **National Democratic Front of Bodoland** have been demanding separate land for the ethnic community, a movement that has claimed nearly 4,000 lives.
- **Displacement of People:** Between 1993 and 2014, more than 970 Bengali-speaking Muslims, Adivasis and Bodos died in clashes triggered by indiscriminate shooting by extremist groups, primarily the **now-disbanded National Democratic Front of Bodoland (NDFB)**.
 - Some of the 8.4 lakh people displaced by the violence have remained in shabby relief camps while others relocated to areas beyond present-day BTR. Over 2.5 lakh people were displaced in the Bodo-Santhal conflict.
- **Bodo Accord:**
 - **First Bodo Accord:** After years of violent clashes, the first Bodo Accord was **signed with the ABSU in 1993**, leading to the creation of a **Bodoland Autonomous Council** with limited political powers.
 - **Second Bodo Accord:** Under this, it was agreed to create a self-governing body for the Bodo Areas in the State of Assam.
 - In pursuance of this, the **Bodoland Territorial Council (BTC)** was created in 2003 with some more financial and other powers.

Note:



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- **Third Bodo Accord:** The **agreement** was signed in 2020, it renamed the BTAD as **Bodoland Territorial Region (BTR)**.
 - It promises more legislative, executive and administrative autonomy under the **Sixth Schedule** to **Bodoland Territorial Council (BTC)** and **expansion of the BTC territory** in lieu of statehood.

Bodoland Territorial Council (BTC)

- It is an **autonomous region** in the **state of Assam** in India.
- It is made up of four districts (**Kokrajhar, Chirang, Baksa and Udalguri**) on the north bank of the **Brahmaputra river**, by the foothills of Bhutan and Arunachal Pradesh.
 - The area under the jurisdiction of BTC, formed under the 2003 Accord, was called the **Bodo Territorial Autonomous District (BTAD)**.
- BTC is an area governed under the **6th schedule**. However, BTC is an exception to the constitutional provision under the 6th schedule.
 - As it can constitute up to 46 members out of which 40 are elected.
 - Of these 40 seats, 35 are reserved for the Scheduled Tribes and non-tribal communities, five are unreserved and the rest six are nominated by the governor from underrepresented communities of the BTAD.

Autonomous Districts and Regional Councils

- Along with ADCs, the **Sixth Schedule** also provides for **separate Regional Councils** for each area constituted as an autonomous region.
 - In all, there are **10 areas in the Northeast** that are registered as **autonomous districts** – three in **Assam, Meghalaya and Mizoram** and one in **Tripura**.
 - These regions are named as district council of (name of district) and regional council of (name of region).
- Each autonomous district and regional council **consists of not more than 30 members**, of which four are nominated by the governor and the rest via elections.
 - All of them remain in power for a **term of five years**.

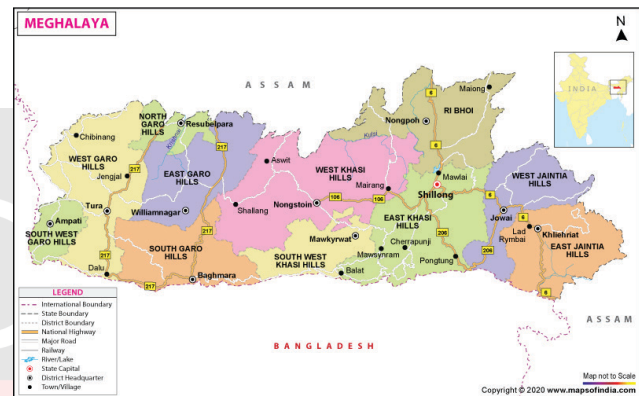
- It provides for alteration of the area of BTAD and provisions for Bodos outside BTAD.
- BTR includes the villages which are dominated by Bodos but are outside BTAD presently.

Upheaval In Meghalaya

Why in News

Recently, a former militant of the **Hynniewtre National Liberation Council (HNLC)**, was killed in a police encounter that has led to a crisis in Meghalaya.

- The encounter was reportedly carried out by the police team of **East Khasi Hills and East Jaintia Hills**.



Key Points

- **Background:**
 - Meghalaya shares a border with Bangladesh and has seen **decades of migration from the neighbouring country** as well as from **other parts of India - Bengal, Punjab and Bihar**.
 - This has **sparked anxieties of indigenous communities who feared becoming a "minority in their own homeland"** because of the influx of "outsiders".
 - It was a **culmination of these "anti-outsider sentiments"** that led to the **formation of Meghalaya's first militant group, the Hynniewtrep Achik Liberation Council (HALP), in 1992**.
 - Hynniewtrep represented the Khasi and Jaintia communities and Achik represented the Garo community.
 - HALC was later divided and **HNLC** came into being that represented the **Khasi and Jaintia communities** and the **Achik Matgrik Liberation Army** that represented the **Garo community**.

Note:



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- The Achik Matgrik Liberation Army was later replaced by the **Achik National Volunteers Council (ANVC)**.
- HNLC claimed to represent only the interest of Khasi Communities, whereas, **the Achik Matgrik Liberation Army** demanded a separate state for the Garo community.
- **Present Status of militancy in Meghalaya:**
 - The **ANVC** since 2004 has been under an **extended ceasefire agreement with the government** while the **HNLC has been trying to talk peace** with the government but on a conditional basis.
 - Over the last several years, militancy in Meghalaya was seen as declining.
 - In 2018, the Centre withdrew the **Armed Forces Special Powers Act (AFSPA)** from Meghalaya after almost 27 years of witnessing a **decline by 80 % in insurgency-related incidents**.
- **Insurgencies in other North East states:**
 - **Nagaland:** **Naga Insurgency**
 - **Mizoram:** **Mizo Movement**.
 - **Assam Insurgency:** **United Liberation Front of Assam (U.L.F.A.)** was formed in 1979 for the deportation of illegal migrants.
 - **Bodoland Statehood Movement**.
 - **Manipur:** **United National Liberation Front** formed in 1964, with an objective of ending the discrimination against **Manipur**.
 - **Arunachal Pradesh:** The only case of indigenous insurgency movement in Arunachal Pradesh was the rise of the **Arunachal Dragon Force (ADF)**, which was rechristened as **East India Liberation Front (EALF)** in 2001.
- **Implications:**
 - **Fatalities:**
 - Severe fatalities have been reported from the northeast including both civilians and security forces.
 - **Hindrance in India's NE Economic Policies:**
 - In the **oil-rich Assam**, **militants have periodically targeted oil and gas pipelines for sabotage**, alleging that India is exploiting the natural resources of the state.
 - National projects have either been stalled or have moved with a tardy pace after militants attacks. **Tourism**, which could have flourished in the scenic northeast, has **suffered** a lot due to instability in the region.
- **Hampers India's Act East policy:**
 - Militancy has also stalled the prospect of **linking the economy of the northeast with the neighbouring Southeast Asian countries**
- **Resistance in Education:**
 - The education sector too has been affected by militancy. **A number of schools in states like Tripura's interior areas have been shut** as teachers avoid the areas due to fear of militant strikes.
- **Measures to Counter Insurgency:**
 - **Operations and special acts:**
 - In the Assam 1990s, two military operations, **Operation Rhino and Bajrang**, were launched against **U.L.F.A. militants**.
 - Special powers under **AFSPA (Armed Forces Special Powers Act)** were bestowed on armed forces to deal with emergency conditions. It is there in the whole of **Assam, Nagaland, most of Manipur, and some areas of Arunachal Pradesh**.
 - **Peace Talks:**
 - Today, **almost all the major insurgent groups in the region**, except the Meitei insurgents, have entered into a **ceasefire or Suspension of Operation (SoO) agreements** with the Union and/or state governments.
 - They are **engaged in peace talks** with some even disbanding their armed cadres.
 - **Inner Line Permit (ILP):**
 - **Restrictions are imposed on the entry of outsiders** to maintain the original identity of indigenous people of Mizoram, Nagaland and Arunachal Pradesh entry of outsiders are not allowed without ILP.
 - **Ministry of Development of North Eastern Region (DoNER):**
 - It is responsible for the matters relating to the planning, execution and monitoring of development schemes and projects in the North Eastern Region, to accelerate the pace of socio-economic development of the region.

Note:

Khasi Community

- Khasi people are an **indigenous ethnic group of Meghalaya** in north-eastern India. They have a **distinctive culture** and are **the largest tribe** of Meghalaya.
 - Both **inheritance of property and succession to tribal office run through the female line**, passing from the mother to the youngest daughter.
- The Khāsi speak a **Mon-Khmer language of the Austroasiatic stock**.
- They are **divided into several clans**. Wet rice (paddy) provides the main subsistence; it is cultivated in the valley bottoms and in terrace gardens built on the hillsides.

Garo Community

- The Garos, who call themselves A·chiks, are **the second largest tribe in Meghalaya**.
- The Garos have a **strong tradition that they have come from Tibet**. They have a **number of dialects and cultural groups**. Each of them originally settled at a particular area of the Garo Hills and outlying plain lands.
- However, **the culture of the modern Garo community has been greatly influenced by Christianity**. Nokpantes are the glory of the past and all children are given equal care, rights and importance by the modern parents.
- The Garo marriage is regulated by **two important laws, viz., Exogamy and A·Kim belongs to the same clan**. Marriages are not allowed within the same clan.

Al-Mohed Al-Hindi Exercise: India-Saudi Arabia

Why in News

Recently, **India and Saudi Arabia** started their **first-ever Naval joint exercise** called the **Al-Mohed Al-Hindi Exercise**.

- The decision on this Bilateral exercise was taken in the **Riyadh Summit** held in 2019.

Key Points



About:

- Indian Naval Ship (INS) Kochi is participating in the exercise. The exercise comprises **several coastal and sea-based exercises** between the two navies.
 - INS Kochi is the **second ship of Kolkata-class stealth guided-missile destroyers**, which was built by the Indian Navy under the code name **Project 15A**.
 - This ship is termed as a '**Network of Networks**' since it is equipped with sophisticated digital networks, an array of state-of-art weapons and sensors that can neutralise any maritime threat.

Aim:

- To carry out tactical manoeuvres, and rescue operations, and an electronic warfare drill to **enhance interoperability**.

Significance:

- It reflects the **growing defense ties between the two countries** in the midst of rapidly changing developments in the Gulf region.
- It will **enhance bilateral cooperation** and security in the **Indian ocean** Region.

Major Indian Maritime Exercises	
Name of the Exercise	Name of the Country
SLINEX	Sri Lanka
Bongosagar and IN-BN CORPAT	Bangladesh
JIMEX	Japan
Naseem-Al-Bahr	Oman
Indra	Russia
Za'ir-Al-Bahr	Qatar
Samudra Shakti	Indonesia
Indo-Thai CORPAT	Thailand
IMCOR	Malaysia
SIMBEX	Singapore
AUSINDEX	Australia
Malabar Exercise	Japan, and the USA



Note:

Miscellaneous

Highlights

- Dara Shikoh
- Latham's Snipe
- West Nile Virus Infections
- Hackathon Manthan 2021
- Chakma and Hajong Communities
- Exercise Konkan 2021
- Surangam System
- National Handicraft Award to Madur Mats
- Tungabhadra Dam
- National Bio Entrepreneurship Competition
- Incel Movement
- Cave Lion
- Darjeeling Himalayan Railways

Dara Shikoh

Why in News

The **Ministry of Culture** recently set up a **seven-member panel of the Archaeological Survey of India (ASI)** to locate the grave of the Dara Shikoh.

- He is believed to be buried somewhere in the **Humayun's Tomb** complex in Delhi, one of around 140 graves of the Mughal clan.

Key Points

- **About:**
 - He (1615-59) was the **eldest son of Shah Jahan**. He is described as a "**liberal Muslim**" who tried to find commonalities between Hindu and Islamic traditions.
 - He is known as a **pioneer of the academic movement for interfaith understanding** in India. He had a deep understanding and knowledge of major religions, particularly Islam and Hinduism.
 - He was inclined towards philosophy and mysticism over military pursuits in comparison to Aurangzeb.
 - In **1655**, his father declared him the Crown Prince, but **was defeated by Aurangzeb, his younger brother, in 1657** after Shah Jahan fell ill.
 - He was **assassinated by Aurangzeb, in a bitter struggle** for the throne on 30th August, 1659 when he was 44.

Works:

- **Connection between Hinduism and Islam:**
 - His most important works, **Majma-ul-Bahrain** (Mingling of Two Oceans) and **Sirr-i-Akbar** (Great Mystery), are devoted to the cause of establishing connections between Hinduism and Islam.
- **Promotion of Indian Culture:**
 - He acquired proficiency in **Sanskrit and Persian, which enabled him to play a key role in popularising Indian culture** and Hindu religious thought.
 - He **translated the Upanishads** and other important sources of Hindu religion and spirituality from Sanskrit to Persian. Through these translations, he was **responsible for taking the Hindu culture and spiritual traditions to Europe** and the West.
 - This is his outstanding contribution to India's intellectual and religious heritage.

Latham's Snipe

Why in News

Urban development continues to threaten Latham's Snipe habitats as several snipe sites in eastern Australia are at risk from housing developments and large infrastructure projects.

- Latham's Snipe was **formerly known as the Japanese Snipe**.

Note:



Key Points

- **Characteristics:**
 - Latham's Snipe is the **largest snipe in Australia**, with cryptic, mainly brown, plumage.
 - Their **exceptional eyesight helps** them constantly scan for dangers at night, when they **forage for food in open wet and muddy areas**.
- **Habitat:**
 - Breeds in **northern Japan and parts of eastern Russia** during **May-July** and spends the **non-breeding season (September to March)** along **Australia's eastern coast**.
 - Like **other migratory shorebirds**, it has incredible endurance, undertaking a non-stop, over-ocean flight between its breeding and non-breeding grounds.
- **Threats:**
 - **Hunting and wetland loss** during the 20th century have contributed to a decline in Latham's Snipe in south-eastern Australia.
 - The signing of the **Japan Australia Migratory Bird Agreement in 1981** has stopped snipe hunting in both countries to some extent.
- **Protection Status:**
 - **IUCN Red List:** Least Concern

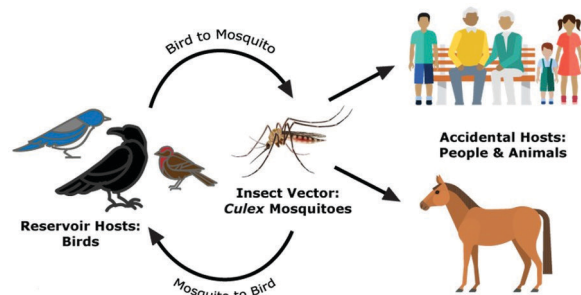
West Nile Virus Infections

Why in News

Recently, **Russia warned of a possible increase in West Nile Virus (WNV) Infections** this autumn as mild

temperatures and heavy precipitation create favourable conditions for the mosquitos that carry it.

West Nile Virus Transmission Cycle



Key Points

- **About:**
 - It is a **member of the flavivirus genus** and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae.
 - WNV is **commonly found in** Africa, Europe, the Middle East, North America and West Asia.
 - Older people, children and those with weakened immune systems are most **at risk**.
- **Origin:**
 - WNV was first isolated in a woman in the **West Nile district of Uganda in 1937**.
 - It was **identified in birds** in the Nile delta region **in 1953**. Before 1997, WNV was not considered pathogenic for birds.
 - **Human infections** attributable to WNV have been reported in many countries for over **50 years**.
- **Transmission:**
 - WNV is an **infectious disease spread by infected mosquitoes**. It **spreads from birds to humans with the bite of an infected Culex mosquito**. It can **lead to a fatal neurological disease in humans**.
 - The virus **causes West Nile fever in around 20% of cases**, according to the **World Health Organization (WHO)**. It is related to the **Zika, Dengue and Yellow Fever Viruses**.
- **Symptoms:**
 - Those infected usually have no symptoms or mild symptoms.
 - The symptoms include a fever, headache, body aches, skin rash, and swollen lymph glands. They can last a few days to several weeks, and usually go away on their own.

Note:



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- If West Nile virus enters the brain, it can be life-threatening. It may cause inflammation of the brain, called encephalitis, or inflammation of the tissue that surrounds the brain and spinal cord, called meningitis.

➤ **Treatment:**

- There are **no specific vaccines or treatments** for human WNV disease.
- The best way to avoid WNV is **to prevent mosquito bites**.
- Treatment is supportive for patients with neuro-invasive West Nile virus, often involving hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections.

Hackathon Manthan 2021

Why in News

The **Bureau of Police Research and Development (BPR&D)**, in coordination with the **All India Council for Technical Education (AICTE)**, will launch an online hackathon "**Manthan 2021**".

Key Points

➤ **About:**

- **Aim:** For **identification of innovative concepts and technology solutions** to address the challenges faced by **intelligence agencies**.
- **Participants:** Selected youths from education institutions across the country and registered start-ups.

➤ **Organisations Involved:**

- **BPR&D** was established under the **Ministry of Home Affairs** in the 1970s, with the primary objective of **modernisation of the Police Force**. It has to ensure the implementation of **Prison Reforms** as well.
- **AICTE** is a **national-level apex advisory body** to conduct a survey on the facilities available for **technical education and to promote development** in the country in a coordinated and integrated manner.

➤ **Other Hackathons:**

- **Virtual Agri-Hackathon 2020.**
- **Drug Discovery Hackathon 2020.**
- **CCTNS Hackathon & Cyber Challenge.**

- **India - Australia Circular Economy Hackathon.**
- **5G Hackathon.**

Chakma and Hajong Communities

Why in News

The Chakma organisations have **opposed the proposed deportation of 60,000 people belonging to the Chakma and Hajong communities from Arunachal Pradesh**.

Key Points

- They are ethnic people who **lived in the Chittagong Hill Tracts**, most of which are located in **Bangladesh**.
 - **Chakmas** are predominantly **Buddhists**, while **Hajongs** are **Hindus**.
 - They are **found in** northeast India, West Bengal, Bangladesh and Myanmar.
- They **fled erstwhile East Pakistan (now Bangladesh) in 1964-65 and came to India** and settled in Arunachal Pradesh. **Reasons:**
 - **Chakmas lost their land** to the development of the **Kaptai Dam** on the Karnaphuli River, Bangladesh.
 - **Hajongs faced religious persecution as they were non-Muslims** and did not speak Bengali.
- In **2015**, the **Supreme Court directed the Centre to grant citizenship to Chakma and Hajongs** who had migrated from Bangladesh in 1964-69.
- They did not directly come into the ambit of the **Citizenship Amendment Act, 2019 (CAA)** because Arunachal Pradesh is among the states exempted from the CAA since it has an **Inner Line Permit** to regulate entry of outsiders.
 - The 2019 CAA amended the Citizenship Act of 1955 allowing Indian citizenship for Hindu, Sikh, Buddhist, Jain, Parsi, and Christian religious minorities who fled from the neighboring Muslim majority countries of Pakistan, Bangladesh and Afghanistan before December 2014 due to "religious persecution or fear of religious persecution". However, the Act excludes Muslims.
- Even as the original immigrants await citizenship, many of their descendants born in India who are eligible for citizenship by birth are struggling to enroll as voters. **The refugees were given voting rights in 2004.**

Note:

- For a very long time local people have been protesting against Chakmas and Hajongs because of their differing ethnicity.
 - If the Chakmas and Hajongs are ejected from Arunachal Pradesh, **Assam shall be the dumping ground for all the unwanted communities in the States covered by the Inner-Line Permit** (Manipur, Mizoram and Nagaland besides Arunachal Pradesh) and the **Sixth Schedule areas** (Meghalaya).

Exercise Konkan 2021

Why in News

Indo-UK Naval Exercise, 'Konkan 2021' was recently held **between INS Tabar and HMS Westminster in the English Channel.**

- The English Channel is located between the **Isle of Great Britain's southern coast** and **France's northern coast** and separated from the North Sea on the north by the **Strait of Dover.**



Key Points

- **About:**
 - The **Bilateral Konkan exercise** is a **naval exercise** conducted between **India and the United Kingdom.**
 - The Konkan series of exercises was **started in 2004.** Since then, the exercise is **hosted in rotation by both the Navies** and has grown in complexity, scale, and intensity.
- **Other Exercises between India and UK:**
 - **Exercise 'Indradhanush'** (Air Force Exercise)
 - **Ajeya Warrior** (Joint Military Exercise)
- **INS Tabar:**

- It is the **third Talwar-class frigate in the Indian Navy**, which was commissioned in 2004 in Kaliningrad, Russia.
- This warship can handle **air or surface or subsurface missions and defend herself.**
- The Talwar class of frigates of the Indian Navy **have been built in Russia under an Indo-Russian joint production.** The Talwar class guided missile frigates are **modified Krivak III class frigates from Russia.** Other Frigates are: INS Teg, Tarkash, Trikan, Talwar, Trishul.
- In **October 2016**, India and Russia **signed an Inter-Governmental Agreement (IGA)** for four Krivak or Talwar stealth frigates.
 - The first two frigates will be built in Yantar Shipyard, in Kaliningrad, Russia. The following two will be built in Goa Shipyard Ltd (GSL).

Surangam System

Why in News

The **Karez System of Afghanistan is in threat** whereas a **similar system named Surangam in South India is thriving.**

- Surangams resemble the karez System both in structure and spread.

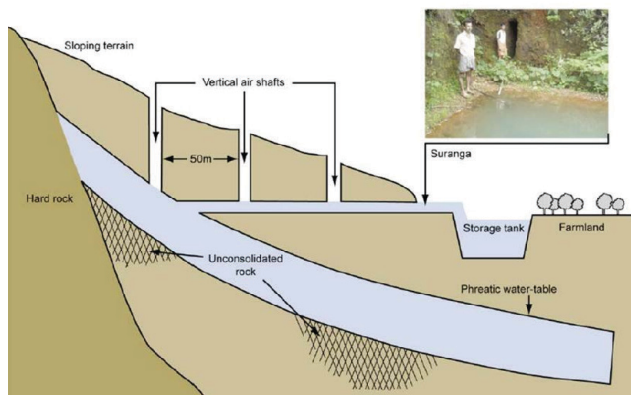
Key Points

- **About Surangams:**
 - The surangam or suranga is **usually found in northern Kerala and southern Karnataka.**
 - Surangam is basically a **tunnel dug through a laterite hillock from the periphery of which water and moisture seeps out.**
 - Surangams are **similar to Qanats** which once **existed in Mesopotamia and Babylon around 700 Before Common Era (BCE).** By 714 BCE, this technology had spread to Egypt, Persia and India.
 - **Qanats** are underground tunnel systems that bring infiltrated groundwater, surface water, or spring water to the earth's surface using only gravitational force.
 - This system has been very effectively **used for domestic and agriculture purposes in dry areas of northern Malabar.**

Note:



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- Some people believe the surangam is indigenous and a likely origin of the suranga system refers to **18 Karhada Brahmin families** that had been moved to the Kasargod area from modern-day Maharashtra in the 17th century under duress.

➤ Karez System:

- The karez system is a legacy of its Persian cultural moorings. It has suffered **extensive damage in 43 years of war** and stares at an uncertain future under the **Taliban's** second regime.
- Karez is a **water harnessing technology in which groundwater is brought to the surface** by a tunnel.
- In this system, **no mechanical pump or lift is used**. Gravity alone brings the water from the underground source.
- The technology originated in **Persia/Iran** and was **widely used during the medieval period**.

Sr. No	Ecological Region	Traditional Water Management System
1.	Trans - Himalayan Region	Zing
2.	Western Himalaya	Kul, Naula, Kuhl, Khatri
3.	Eastern Himalaya	Apatani
4.	North Eastern Hill Ranges	Zabo
5.	Brahmaputra Valley	Dongs / Dungs/ Jampois
6.	Indo-Gangetic Plains	Ahars-Pynes, Bengal's Inundation Channels, Dighis, Baolis
7.	The Thar Desert	Kunds, Kuis/beris, Baoris / Ber/ Jhalaras, Nadi, Tobas, Tankas, Khandins, Vav/Bavadi, Virdas, Paar
8.	Central Highlands	Talab, Bandhis, Saza Kuva, Johads, Naada/Bandh, Pat, Rapat, Chandela Tank, Bundela Tank

9.	Eastern Highlands	Katas / Mundas / Bandhas
10.	Deccan Plateau	Cheruvu, Kohli Tanks, Bhandaras, Phad, Kere, The Ramtek Model
11.	Western Ghats	Surangam
12.	West Coastal Plains	Virdas
13.	Eastern Ghats	Korambu
14.	Eastern Coastal Plains	Eri / Ooranis
15.	The Islands	Jack Wells

National Handicraft Award to Madur Mats

Why in News

Recently, the **National Handicraft Award** was given to two women from West Bengal in recognition of their **outstanding contribution to the development of crafts, 'Madur floor mats'**.

Key Points

➤ About:

- Shilp Guru Award, National Award and National Certificate of Excellence** are one of the **highest awards for handicraft artisans in the country**.
 - They are presented by the **President of India**.
- Shilp Guru Award was **instituted in the year 2002** on the occasion of Golden Jubilee year of handicrafts resurgence in India.
- While the **National Award** was **instituted in the year 1965** and the **National Certificate of Excellence** was **instituted in the year 1967**.
- Shilp Guru** is the **country's highest award in the field of handicrafts** given to artisans aged above 50 with 20 years of experience.
- Similarly, **National Award** is **conferred on a craftsperson** in recognition of his/her outstanding contribution towards the development of crafts and **who is above the age of 30 years and is having 10 years of experience** in the field of handicrafts.
- And the **National Certificate of Excellence** is **conferred on Master craftspersons in recognition of their body of work**, work undertaken to promote the crafts, dissemination of the same and his/her skill level and **who is above the age of 30 years**

Note:

and is having 10 years experience in the field of handicrafts.

➤ **Madur Floor Mats:**

- An intrinsic part of the Bengali lifestyle, **Madur mats or Madhurkathi** are made of natural fibres.
- It was awarded the **Geographical Indication (GI) tag** by the GI Registry in April 2018.
- It is a **rhizome-based plant** (*Cyperus tegetum* or *Cyperus pangorei*) found abundantly in the alluvial tracts of Purba and Paschim Medinipur of West Bengal.

➤ **Other Items with GI Tags From Bengal:**

- Wooden Mask of Kushmandi, Purulia Chau Mask, Gobindobhog Rice, Tulapanji Rice, Bengal Patachitra, Darjeeling Tea, etc.

Tungabhadra Dam

Why in News

Recently, the Vice President visited the Tungabhadra dam in Karnataka.

Key Point

➤ **About:**

- Tungabhadra dam also known as **Pampa Sagar** is a multipurpose dam built across **Tungabhadra River** in Hosapete, Ballari district of Karnataka. It was built by Dr. Thirumalai Iyengar in 1953.
- Tungabhadra reservoir has a storage capacity of 101 TMC (Thousand Million Cubic feet) with **catchment area spreading to 28000 square kms**. It is about **49.5 meters** in height.

➤ **Importance:**

- It is the **life-line of 6 chronically drought prone districts** of Bellary, Koppal and Raichur in **Karnataka** (popularly known as the **rice bowl of Karnataka**) and Anantapur, Cuddapah and Kurnool in neighbouring **Andhra Pradesh**.
- Besides irrigating vast patches of land in the two states, it also **generates hydel power and helps prevent floods**.

Tungabhadra River

- It is a sacred river in southern India that **flows through the state of Karnataka to Andhra Pradesh**.

The ancient name of the river was **Pampa**. The river is approximately 710 km long, and it drains an area of 72,200 sq km.

- It is **formed by the confluence of two rivers, the Tunga River and the Bhadra River**. Both Tunga & Bhadra Rivers originate on the eastern slopes of the **Western Ghats**.



- The greater part of the Tungabhadra's course **lies in the southern part of the Deccan plateau**. The river is fed mainly by rain, and it has a monsoonal regimen with summer high water.
- It's **Major tributaries** are the **Bhadra**, the **Haridra**, the **Vedavati**, the **Tunga**, the **Varda** and the **Kumdevathi**.
- It **flows in a more or less northwest direction** before joining the eastern river **Krishna**. The Krishna River finally **ends into the Bay of Bengal**.

National Bio Entrepreneurship Competition

Why in News

Recently, the **Department of Biotechnology** has launched the **fifth edition of the National Bio Entrepreneurship Competition (NBEC)**.

- NBEC is conducted as a part of the **Biotechnology Industry Research Assistance Council (BIRAC) Regional Entrepreneurship Centre**, established at **Centre for Cellular and Molecular Platforms (C-CAMP)** in partnership with **BIRAC**.
 - BIRAC is a **Public Sector Enterprise**, set up by the **Department of Biotechnology (DBT)**.

Centre for Cellular and Molecular Platforms (C-CAMP)

- C-CAMP is **one of the centers for technology-based innovation and entrepreneurship** in the field of life sciences under the **Department of Biotechnology (DBT)**.
- It intends to **develop state-of-the-art technologies** and to **provide training** on these technologies to academia and industry.

Note:

Key Points➤ **About NBEC:**

- It is **India's largest and most prestigious national competition** for bio-entrepreneurs.
- First Launched in 2017, **NBEC has emerged as a flagship platform** for bio-entrepreneurs and innovators in India to showcase their deep science driven ideas and has created a great impact.
- It is **held annually to identify and nurture deep science-driven business ideas** in the life sciences domain that have the **potential to break new ground** in addressing societal challenges.

➤ **Prize:**

- It gives an **unprecedented sum of Rs 8.5 crore** in cash prizes and investment opportunities this year for winners.

➤ **Investment Partners:**

- **Over 30 industry and investment partners** have come forward to encourage and support bio-entrepreneurship in India through this competition.

➤ **Achievements:**

- NBEC in four years has created a **repository of over 1,000 carefully vetted and expert hand-picked business ideas** spanning all sub-domains of life Sciences.
 - Special focus was given on healthcare, agriculture and environment, with a special focus on emerging areas like digital health, maternal & child health, antimicrobial resistance, water and sanitation, green chemistry, and personal care.
- This has built a **steady pipeline of innovative technologies with demonstrated commercial viability**.

Incel Movement**Why in News**

Recently, the **Incel Movement** has been linked to serious violence around the world.

- The movement came into the spotlight yet again in the UK's Plymouth, where a 22-year-old man shot dead five people, including a toddler.

Key Points➤ **About:**

- It is a dangerous **online subculture comprising men who identify as 'involuntary celibates'** and regularly express deeply misogynistic views about women.
- Men who are part of this movement harbour a **deep resentment towards both women and other men who are sexually active**.
- They **blame women for their own lack of sexual and social status**. While views tend to vary, some believe that sex is their right — something that is owed to them by virtue of them being males.
 - An extreme section of Incels even advocate violence against women. However, not all members of the subculture are violent, experts say.

➤ **Red Pill & Black Pill Mentality:**

- The **black pill** theory, often associated with incels, **promotes the defeatist idea that your fate is sealed at birth** and no matter what changes you try to make, **your sexual capital cannot be altered**.
- **Red pillars**, on the other hand, believe the **world is biased toward women, and see feminism as female supremacy**. They believe there is a systemic bias in favour of women.

➤ **Concerns:**

- The movement has been **identified as a strand of a broader trend of young white males being radicalised online**.
- It **shares some similarities with the better known alt-right movement**, with both groups attributing society's ills to social liberalism, women and ethnic minorities.
 - The alt-right, an abbreviation of alternative right, is a loosely connected far-right, **white nationalist movement**.
- So far, **incel-related attacks are not perceived as as much of a terror threat** in the US when compared to violent attacks by followers of other violent far-right ideologies, according to an analysis of domestic terror attacks by the New America Foundation.
 - But the same analysis found that **incel terrorism is deadlier than far-left terrorism**.

Cave Lion**Why in News**

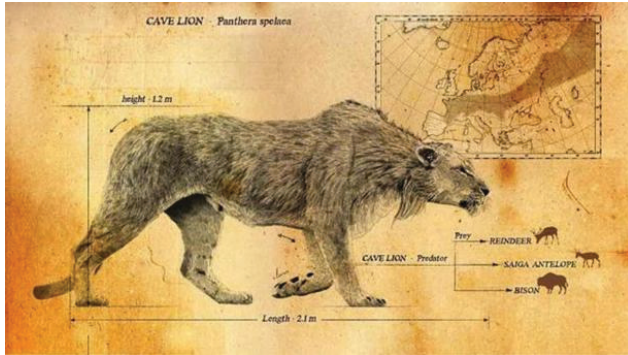
Recently, scientists have found two nearly perfectly preserved **cave lion cubs** which lived **28,000 years ago**, nicknamed **Boris and Sparta**.

Note:



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- They were found in **Siberia's permafrost, Russia**. The cubs were found 15 metres apart but are not only from different litters but **were also born thousands of years apart**.



Key Points

- **About:**
 - The Cave Lion (*Panthera spelaea*), often nicknamed the **Mega-Lion**, is a **genus of prehistoric lion** that originated during the **last Ice Age** (2.6 million years ago to 11,700 years ago) in what is now Europe.
 - It is generally placed as a subspecies of the lion.
 - It was one of the most common large predators during the last **Ice age**, with a distribution throughout northern Eurasia and North America. It became **extinct about 14,000 years ago**.
- **Behaviour & Traits:**
 - The Cave Lions were **major predators, hunting ice age deer, bison, and other animals**. These lions also were **ambush predators, laying in wait and erupting out of the brush to tackle their prey with impressive speed, agility, and strength**.
 - Measuring **3 meters long** and weighing **340 kilos**, this was the largest cat species of all time.
 - However, like all cats, the Cave Lion could only **chase prey over a short distance**.
 - Despite their size, strength, and relatively long legs, Cave Lions were **not designed for long-distance chases**.
- **Significance of Finding:**
 - Similar finds in Russia's vast Siberian region have turned up with increasing regularity. **Climate change is warming the Arctic** at a faster pace than the rest of the world and has **thawed the ground in some areas long locked in permafrost**.

Permafrost

- **About:**
 - Permafrost is **any ground that remains completely frozen—32°F (0°C) or colder—for at least two years straight**.
 - It is made of a **combination of soil, rocks and sand that are held together by ice**.
 - These permanently frozen grounds are most **common in regions with high mountains and in Earth's higher latitudes**—near the North and South Poles.
 - Permafrost covers large regions of the Earth. Almost a quarter of the land area in the Northern Hemisphere has permafrost underneath. Although the ground is frozen, **permafrost regions are not always covered in snow**.
- **Thawing of Permafrost:**
 - **Damage Infrastructure:** Many villages are built on permafrost. When permafrost is frozen, it's harder than concrete. However, **thawing permafrost can destroy houses, roads and other infrastructure**.
 - **Release Greenhouse Gas:** As permafrost thaws, microbes begin decomposing this material. This process **releases greenhouse gases** like carbon dioxide and methane to the atmosphere.
 - **Diseases:** When permafrost thaws, so do ancient bacteria and viruses in the ice and soil. These **newly-unfrozen microbes could make humans and animals very sick**.

Darjeeling Himalayan Railways

Why in News

Recently, **concerns were raised against the Centre's proposed monetisation of the Darjeeling Himalayan Railways (DHR)**.

Key Points

- **About:**
 - DHR was **built in the British era between 1879 and 1881**.
 - It is **located in the foothills of the Himalayas in West Bengal**.
 - It is the **most outstanding example of a hill passenger railway**. Opened in 1881, its design

Note:



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applies bold and ingenious engineering solutions to the problem of establishing an effective rail link across a mountainous terrain of great beauty.

- It was **declared a UNESCO (United Nations Educational, Scientific and Cultural Organization) World Heritage Site** in 1999.



➤ **Other Mountain Railways Declared as World Heritage Sites:**

- **Nilgiri Mountain Railways** located in the Nilgiri Hills of Tamil Nadu (South India) (2005)

- **Kalka Shimla Railway** located in the Himalayan foothills of Himachal Pradesh (Northwest India) (2008)

UNESCO's World Heritage Sites

- A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance.
- The list of World Heritage Sites is maintained by the international 'World Heritage Programme', administered by the UNESCO World Heritage Committee.
- This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.
- **India has 40 world heritage sites**, 32 cultural, 7 natural and 1 mixed.
 - In 2021, **Dholavira** (Gujarat) and **Ramappa Temple** (Telangana) have been declared as world heritage sites.

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Note:

Key Points

Details

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Summary

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Summary