

CIVIL SERVICES MONTHLY

SEPTEMBER 2021



ONE STOP SOLUTION FOR CIVIL SERVICES

MEKEDATU

CHINA- TAIWAN RELATIONS

AUKUS ALLIANCE

NATIONAL MONETISATION PIPELINE

BAD BANK

SHOONYA CAMPAIGN

SMART ANGANWADI PROJECT

NIPAH VIRUS

EBOLA SURVIVORS

LIGHT COMBAT AIRCRAFT-TEJAS MARK 2

SAMUDRA SHAKTI

THAMIRABARANI (PORUNAI) CIVILIZATION

SEDITION

WORLD PATIENT SAFETY DAY 2021

DRONE RULES 2021



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POLITY

Deputy Speaker (Indian Express)

- **News context:** Post of Deputy-speaker in LS still remains vacant.
- **Deputy Speaker:** Article 93 (Provides for election).
- He does not need to resign from original party but they have to remain impartial.

Roles and functions: As presiding officer in case of leave or absence caused by Death or illness of Speaker.

Election:

- He is elected in 1st meeting of LS after General elections among LS members.
- He is from opposition party.

Tenure and removal:

- They **hold office until:**
 - They are member of LS.
 - They resign.
- They can be removed from office by a resolution passed in the LS by majority of its members.

National Company Law Tribunal (NCLT) & Income Tax Appellate Tribunal (ITAT) (The Hindu)

- **News context:** Government has appointed 31 people at NCLT and ITAT.

Significance of this move

- There are around **250 posts lying vacant** at various key tribunals and appellate tribunals.

NCLT (2016):

- It is a quasi-judicial body that adjudicates **issues relating to companies** in India.
- It was established under **Companies Act, 2013 Justice Eradi Committee recommendations.**
- **Appointments of Members: 5 years.**
- **Tenure:** Till **age of 65** or until further orders.

ITAT (1941):

- It is **statutory body** in field of **direct taxes.**
 - Its orders **are accepted as final**, on findings of fact.
- It was 1st **Tribunal** to be created and is known as '**Mother Tribunal**'.
- To ensure highest degree of independence of the ITAT, it:
 - Functions under **Department of Legal Affairs** in Law Ministry.
 - Is kept away from any kind of control by Finance Ministry.
- Orders passed by ITAT can be **subjected to appellate challenge**, on substantial questions of law, before **respective HC.**

National Commission for Minorities (NCM) (The Hindu)

- It was set up under **National Commission for Minorities Act, 1992.**
- **6 religious communities notified as minority communities:**
 - Muslims, Christians, Sikhs, Buddhists.
 - Zoroastrians (Parsis), Jains (notified in 2014).
- **Composition: Chairperson, Vice-Chairperson.**
 - **5 members.**
 - All of them shall be from minority communities.
- **Constitutional provisions to safeguard the Minorities in India:**
 - Articles: 15, 16, 25, 26, 28, 29, 30.
- **Article 350-B: 7th Constitutional (Amendment) Act 1956:**

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- **Special Officer for Linguistic Minorities.**
- Appointed by: President.
- **News context:** Iqbal Singh Lalpura is new NCM chairman.

Consent of Attorney General (AG) on Contempt Proceedings (The Hindu)

- **News context:** AGI has granted his consent to a lawyer for initiating contempt proceedings against author of a YouTube video.

Key Details

- Consent has been given under **Section 15 of Contempt of Courts Act, 1971.**
 - Under **Rule 3(c)** of Rules to Regulate Proceedings for Contempt of Supreme Court, 1975.

Contempt of Courts:

- **Contempt of Courts Act 1971** defines **civil and criminal contempt**. It lays down:
 - **Powers and procedures** by which courts can penalize contempt.
 - Penalties that can be given for offence of contempt.
- It is offense of being **disobedient to or disrespectful** toward a court of law and its officers.
 - In form of behavior that **opposes or defies** authority, justice and dignity of court.

Consent of AG to initiate contempt proceedings

- AG's consent is meant to **be a safeguard against frivolous petitions**, as it is deemed that AG is as an officer of court.
 - **Judicial time is squandered** if frivolous petitions are made.
- AG's consent is **mandatory** when a private citizen wants to initiate a case of contempt of court against a person.
- When **court itself initiates a contempt of court** case, AG's consent is not required.
 - Because **Court is exercising its inherent powers** under Constitution to punish for contempt.
 - Such Constitutional powers cannot be restricted because the AG declined to grant consent.
- **If AG denies consent, the matter all but ends.**
 - Complainant can, however, separately bring the issue to notice of court and urge court to take **suo motu cognizance**.
- **Article 129:** SC to initiate contempt cases on its own, independent of motion brought before it by AG or with consent of AG.

Parliamentary Privileges (Indian Express)

- **News context:** Rajya Sabha Chairman said that disrupting parliamentary proceedings:
 - Amounts to contempt of House.
 - It cannot be claimed as a privilege.

Parliamentary Privileges:

- Rights and immunities enjoyed by members of Parliament.
 - On individual and collective basis.
 - To enable them in effectively discharge their functions.
- **Article 105:** MPs privileges:
 - Freedom of speech in Parliament.
 - Right of publication of its proceedings.
- Apart from this, Code of Civil Procedure, 1908, provides for freedom from:
 - Arrest, Detention.

Right to Get Aid From Govt: Not Fundamental Right (The Hindu)

What's the case?

- Judgment came on an appeal filed by UP government.
- Challenging the 2018 Allahabad High Court verdict.
 - That holds regulation framed under Intermediate Education Act, 1921 is unconstitutional.
- The apex court set aside HC verdict.

Constitutional Provisions regarding Minority Educational Institutions

- **Article 30(1):** Recognizes linguistic and religious minorities.
- **Article 30:** recognizes right of religious and linguistic minorities.
- Allow to establish and administer **educational institutions**.
- Recognizing role educational institutions play in preserving distinct culture.
- Majority community can also establish and administer educational institutions under **Article 30(1) (a)**.
- **Special rights enjoyed by religious minority institutions are:**
 - Right to education as a Fundamental Right.
 - In case property is taken over by state, due compensation to be provided to establish institutions elsewhere
 - Not considered for reservation.
 - Under Right to Education Act.
 - Upto 25% of enrolment reserved for economically backward section of society.

GOVERNANCE

NRC Draft (Indian Express)

- **News context:** Denial of benefits from Aadhar to people who were included in draft NRC list are excluded from list published in 2018.

About NRC

- The list of Indian citizens.
 - It is prepared by following census of 1951.
- The process of updating started in Assam (SC order 2013).
- According to rules framed in Assam Accord.
 - Under Citizenship Act, 1955.

More on this news

- Lakhs of people left out draft of Assam's NRC.
- As per SC mandated rules, those left out of draft NRC list:
 - Mandatorily submit their biometrics during the hearings of 'claims' (to include themselves in the NRC).
 - Objections (to object to someone else's inclusion) process.
- Lack of clarity and inability to enjoy the full benefits.
- The complete and final list is yet to be published.

Way forward:

- Efforts must be taken by the stakeholders:
 - NRS state coordinator, central and state government and SC.

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MLAs forum to check outmigration from Arunachal Pradesh (The Hindu)

- **News context:** Forum to prevent the outmigration of villagers and modify the Border Area Development Programme (BADP) to suit local needs.

Need for such a step:

- People are migrating to urban areas **within Arunachal Pradesh or beyond** for livelihood.
- Many villages are almost abandoned today.

About BADP

- It was initiated in **western region** during **7th FYP (1985-1990)**.
 - It was also extended to the other regions.
- It covers border districts abutting the international boundary.
- It includes:
 - Construction of primary health centres, Schools.
 - Supply of drinking water, Community centres.
 - Connectivity, Drainage
- **Objectives:** To meet special developmental needs and wellbeing of people living in remote and inaccessible areas situated near international border.
- **Funding:** Under it, funds are provided to the States as a **100% non-lapsable Special Central Assistance**.

Assam Cattle Preservation Act, 2021 (The Hindu)

Under this:

- Slaughter of cow, calf and heifer is prohibited.
- Transportation of cattle from or through Assam is prohibited.
- **Sale of beef /beef products is prohibited:**
 - Predominantly areas of Hindu, Jains, Sikhs, other non-beef eating communities.
 - Within **5-km radius** of any temple, Satra etc.
- **Need for this law:** Rise of illegal cattle smuggling along India-Bangladesh border.
 - Veterinary Officer, Sub Inspector or above or any authorized person is empowered to search, inspect etc.

Minimum support price (MSP) (The Hindu)

- It is rate at which **government buys grains from farmers**.
- It is **currently fixed for 23 crops** for Kharif and Rabi seasons.
- **MSP for Kharif crops:** Paddy, Jowar, Bajara, Ragi, Maize.
 - Arhar, Moong, Urad, Cotton, Groundnut, Sunflower Seed.
 - Soyabean, Sesamum.
- **Rabi Crops:** Wheat, Barley, Gram, Masur, Rapeseeds.
 - Mustard, Safflower, Toria.
 - It is fixed twice a year on recommendations of CACP.
- It is minimum price for any crop.
- **CACP, 1965:**
 - It is a statutory body under Agriculture Ministry.
 - Its suggestions are not binding.

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Citizenship (Amendment) Act, 2019 (The Hindu)

- It amends **Citizenship Act, 1955**.
- It provides ways in which citizenship may be acquired.
- It provides citizenship: By **birth, descent, registration, naturalization**, by incorporation of territory.
- **About CAA: It is to grant Indian citizenship to minorities.**
 - Hindu, Sikh, Jain, Buddhist, Parsi and Christians from Pakistan, Bangladesh, Afghanistan who came to India till December 31, 2014.
- **Exceptions:**
 - Act does not apply to tribal areas of Tripura, Mizoram, Assam, Meghalaya.

Assam govt. unveils electric vehicle policy (The Hindu)

- Assam launches to phase out vehicles running on fossil fuels by 2030.
- **Aim:** To introduce 200,000 EVs (5 years).
 - To convert all government vehicles to electric (5 years).
 - To encourage people to buy EVs.
 - State will give subsidy on 2,3,4 wheelers.
 - 100% exemption of registration, parking fees and road tax.
 - More charging stations.
- **Challenges:** Lowest penetration rates.
 - Capital costs are high.
 - Payoff is uncertain, Lack of supporting infrastructure.
 - India depends on Japan and China for lithium-ion batteries.
- **Way forward:**
 - Shift from subsidizing vehicles to batteries.
 - Acquiring lithium fields of Bolivia, Australia, and Chile.

UDAN (Ude Desh Ka Aam Nagrik) Scheme, 2016 (The Hindu)

- **Aim:** To enhance **connectivity to remote and regional areas** of the country and making air travel affordable.
- It comes under **National Civil Aviation Policy**.
- Under it, **nearly half** of the seats in **Udaan flights** are offered at subsidized fares.
 - Participating carriers are provided a certain amount of **viability gap funding (VGF)**.
 - VGF is **shared between Centre and the concerned states**.
- It will be jointly funded by **Centre and states**.

UDAN 4.0 (December 2019)

- It **focuses on N-E Regions, Hilly States, Islands**.
- Under this, airports that had already been **developed by Airports Authority of India (AAI)** are given **higher priority** for the award of VGF.
- Operation of **helicopters and seaplanes** is also been incorporated.



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Jharkhand State Employment of Local Candidates Bill, 2021 (The Hindu)

- It provides 75% reservation for locals in private sector jobs.
 - Jharkhand will become 3rd State, after Andhra Pradesh and Haryana.
- **Concerns and issues:** Article 16 is violated

Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights Act) (The Hindu)

- **News context:** Individual and community right certificates were handed over to beneficiaries of Gujjar-Bakerwal and Gaddi-Sippi communities in J&K under Forest Rights Act.

Forest Rights Act (FRA), 2006:

- It grants **legal recognition** to the rights of traditional forest dwelling communities.

• Rights under Act:

- **Title rights** i.e. ownership to land that is being farmed by tribals or forest dwellers as on 13 December 2005, subject to a **maximum of 4 hectares**.

- Ownership is only for **land that is actually being cultivated** by the concerned family as on that date.

- It means that **no new lands are granted**.

- **Use rights to minor forest produce** (also including ownership), to grazing areas, to pastoralist routes, etc.

- **Relief and development rights** to:

- Rehabilitation in case of illegal eviction or forced displacement.
- Basic amenities, subject to restrictions for forest protection.

- **Forest management rights** to protect forests and wildlife.

- **Eligibility criteria:** As per **Section 2(c) of FRA**, to qualify as **Forest Dwelling Scheduled Tribe (FDST)**, three conditions must be satisfied:

- Must be a **Scheduled Tribe** in the area where the right is claimed; and
- **Primarily resided in forest** or forests land prior to 13 December 2005; and
- Depend on the forest or forests land for bonafide livelihood needs.

- To qualify as **Other Traditional Forest Dweller (OTFD)** and be eligible for recognition of rights under FRA, two conditions need to be fulfilled:

- Primarily resided in forest or forests land **for three generations (75 years) prior to 13 December 2005**.
- Depend on the forest or forests land **for bonafide livelihood needs**.

Process of recognition of rights under the act

- **Gram sabha, or village assembly**, will initially pass a **resolution** recommending whose rights to which resources should be recognised.
- This resolution is then **screened and approved** at the level of the sub-division (or taluka) and subsequently at the **district level**.
- **Screening committees** consist of:

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Forest Rights Act

Enacted in 2006, the Forest Rights Act came into effect in 2008. Considered a landmark piece of legislation as it attempts to correct historical injustices against forest dwellers in the colonial era and in independent India, it recognises forest dwellers' individual rights over their land and a village's rights to manage and conserve the forest:

Individual Forest Rights: Any person belonging to a scheduled tribe can claim rights to live in and cultivate up to 4 ha if he occupied it and depended on it as of December 13, 2005. A non-tribal, in addition, will have to prove his family's residence in the vicinity of the forest for 75 years prior to December 2005

Community Forest Rights: The Act recognises the rights of a gram sabha over forest land within the village boundaries or seasonal use of landscape for pastoral communities. This allows the villagers to own and collect, use and dispose of minor forest produce besides timber, including the right to use grazing land and water bodies and the right to protect and regenerate any community resource, among others

- Three government officials (**Forest, Revenue and Tribal Welfare departments**)
- **Three elected members** of the local body at that level.
- These committees also hear appeals.

Bill to scrap NEET in Tamil Nadu (Indian Express)

- **News context:** Tamil Nadu passes a Bill to dispense with NEET.

Reasons behind the bill

- It is on **judge AK Rajan committee recommendations**.
- It allows admission to medical courses **based on Class 12 marks** to "ensure social justice".
- State assembly says NEET is not a fair or equitable method of admission.
 - Since it **favoured the rich and elite sections** of society who can afford coaching.

Challenges ahead

- Since it **challenges a central law**, it **cannot come into force** until and **unless approved by the President of India**.
- Usually, when a state wants to amend a Central law made under one of the items in the **concurrent list**, it needs the **clearance of the Centre**.
 - When a state law contradicts a Central law on the same subject, the **law passed by Parliament prevails**.

Other options available with the states are:

- **Article 131:** It provides exclusive jurisdiction to the Supreme Court to adjudicate matters between the states and the Centre.
- **Article 254 (2):** It empowers states to pass legislations.
 - Which negate Central acts in matters enumerated under Concurrent List.
 - A state legislation passed under **Article 254 (2) requires President assent**.

NEET

It formerly was All India Pre-Medical Test (AIPMT), qualifying test for MBBS and BDS programmes in Indian medical and dental colleges.

- It is conducted by the **National Testing Agency (NTA)**.

Model Tenancy Act, 2021 (PIB)

- **News context:** Assam becomes 1st state to adopt it.
 - It replaces Assam Urban Areas Rent Control Act, 1972.
- States and UTs can now adopt it by enacting fresh legislation.
 - Or they can amend their existing rental laws suitably.
- It will be applicable prospectively and will **not affect existing tenancies**.
- **Written agreement** is a must for all new tenancies.
 - It will be submitted to concerned **district 'Rent Authority'**.
- **Roles and responsibilities of landlord and tenants:**
 - No landlord or property manager can withhold any essential supply to premises occupied by tenant.
- **If tenancy has not been renewed:**
 - Tenancy shall be deemed to be renewed on a month-to-month basis on same terms and conditions.
 - As were in expired tenancy agreement, for a **maximum period of 6 months**.
- **Compensation in case of non-vacancy:**
 - On expiry of extended period of 6 months of agreed tenancy period or termination of tenancy by order or notice.

Model Tenancy Act



- Will not affect the existing tenancies
- Written agreement must for all new tenancies
- Separate rent authorities, courts and tribunals to be set up in every district
- States and Union territories can adopt Model Tenancy Act by enacting fresh legislation or they can amend their existing rental laws suitably

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- tenant shall be **a tenant in default** and liable to **pay compensation of double** of monthly rent for 2 months and 4 times of monthly rent thereafter.
- A landowner or property manager **may enter a premise** in accordance with written notice or notice through electronic medium served to tenant **at least 24 hours before time of entry**.

Significance of this law

- It is an important piece of legislation that promises to:
 - Ease **burden on civil courts**
 - **Unlock rental properties** stuck in legal disputes
 - **Prevent future tangles** by balancing the interests of tenants and landlords.

Govt relief package for Telecom Sector (Indian Express)

- **News context:** Union Cabinet has approved a crucial relief package for cash-strapped telecom firms.

Relief package

- It includes a **4 years moratorium** on payment of **statutory dues** by telecom companies.
- It **allows 100% FDI** through **automatic route**.
- The wide set of measures proposed entail reforms for ailing sector by way of:
 - **Granting moratorium** on unpaid dues.
 - Redefining **Adjusted Gross Revenue (AGR)** prospectively.
 - Cutting in **Spectrum Usage Charges**.

Significance of package

- It provided **much needed relaxation to telecom companies**.
 - These are expected to **Protect and generate**:
 - **Employment** opportunities, **Promote healthy competition**.
 - **Protect interests of consumers**, **Infuse liquidity**.
 - **Encourage investment**.
 - **Reduce regulatory burden** on Telecom Service Providers (TSPs).

Relief for telecom and auto sectors

A look at the measures approved by the Cabinet and announced on Wednesday

TELECOM

A 4-year moratorium on dues

A moratorium of up to four years was allowed in annual payments. Telecom firms will have to pay a small interest during this period. Govt will also have an option to convert the due amount into equity at the end of four years

THIS WILL OFFER SPACE TO CASH-STRAPPED FIRMS TO IMPROVE THEIR BUSINESS AND CLEAR DUES OVER A LONGER PERIOD

AGR definition rationalised

The govt rationalised definition of Adjusted Gross Revenue (AGR) to exclude non-telecom revenues prospectively. The inclusion of non-telecom revenues had led to dues worth thousands of crores piling up for firms

100% FDI in sector cleared

The govt allowed 100% FDI in telecom sector via automatic route. So far, FDI was capped at 49% and anything thereafter had to go through the govt route. This is expected to ease the cash flow issues

Spectrum user fee rationalised

Spectrum user charges have been rationalised and there will be now an annual compounding of rates. Spectrum can now be surrendered as well as shared.

AUTO

₹26,058cr

production-linked incentives to be provided to industry over 5 years

The scheme is part of the overall announcement of PLI schemes for 13 sectors made earlier during the Union Budget 2021-22, with an outlay of ₹1.97 lakh crore

It will encourage industry to make fresh investments for the indigenous global supply chain of advanced automotive technology products

What this may lead to

₹42,500cr of fresh investment

₹2.3 lakh cr of incremental production

Section 66A of Information Technology Act (Indian Express)

- **News context:** Delhi HC asked Centre to remove provisions from statute such as Section 66A of the IT Act.
 - It has already been declared unconstitutional.
- Section 66A defines:
 - Punishment for sending **"offensive" messages** through a computer or any other communication device.
 - Conviction can fetch maximum of three years in jail and a fine.
- It empowers **police to make arrests**.

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Mekedatu (PIB)

- **News context:** Cauvery Water Management Authority's (CWMA) urged Karnataka to deliver water owed to Tamil Nadu.
 - Based upon Cauvery Water Disputes Tribunal's decision of 2007, modified by the Supreme Court in 2018.

Issue

- Tamil Nadu claimed that Karnataka had only provided 85.8 TMC water instead of 119.5 TMC water until September 26.

CWMA:

- Created under Cauvery Management Scheme earlier framed by Centre and approved by Supreme Court.

Composition: Chairman, Secretary, 8 members.

Functions:

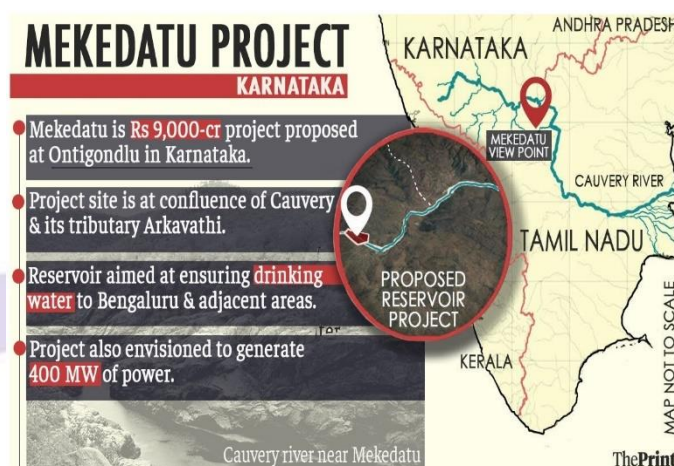
- Secure implementation and compliance of Supreme Court's order in relation to control of Cauvery waters.
- Advise states on water use efficiency.
- Prepare an annual report.

Mekedatu Project:

- Multipurpose (drinking and power) project.
- Building reservoir, Ramnagar, Karnataka (Cauvery Basin).

Tribunal and Supreme Court:

- Tribunal was set up in 1990.
- Due to disagreement, Supreme Court take intervene.



Unlawful Activities (Prevention) Act, 1967 (The Hindu)

- It effectively prevents unlawful activities.
- It Assigns absolute power to center.
- Death penalty and life imprisonment are highest punishments.

Multi-member Ward System in Maharashtra (The Hindu)

- **News context:** Maharashtra cabinet cleared a plan for multi-member wards in urban civic bodies, excluding Mumbai.
 - State has reverted to the system of electing multiple councillors or corporators from every ward.
 - All municipal corporations and municipal councils in the state, excluding Mumbai.
 - State government will promulgate an ordinance to make the amendment.

Proposal

- In municipal corporations, voters will elect three-member panel in each of the wards in municipal corporation areas.
- In municipal council areas, voters will elect a panel of two members.
- In a single-member ward system, a voter votes for one candidate.
- No change in the number of wards or corporators.

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Work & function

- Candidates from same party or alliance.
- Across the designated multi-member ward able to campaign across the two or three wards.
 - Although they will file their nomination from individual wards.
- If elected, each will represent the individual ward only.
- Candidates from same party/alliance in a multi-member ward will be called a "panel".
 - Voter does not really select a panel.
- Voter is also entitled to select just one candidate.
 - For this, voter has to make a written submission to the presiding officer of the booth.

Benefits

- Help a party or alliance maximize its seats.
- Party can offset weak candidates with strong ones.
- The hope is that the strongest of the candidates will carry the day for the others in the "panel".

Recognition/derecognition of Political Parties (Indian Express)

Registration of Political Parties

- It is governed under Section 29A of RPA, 1951.
- To register under Section 29A of RPA, 1951, Party needs to submit an application to EC (Article 324).
- Time limit is 30 days following the date of its formation.

NCRB data on 'Offences against State' (The Print)

Latest data released by NCRB

- Highest registered cases of 'offences against State'(2020): **Manipur, Assam and UP.**
 - However, a decline in overall number of cases registered in 2020 as against in 2019.
 - **80.6%** were registered under Prevention of Damage to Public Property Act.
 - **14.2%** under **UAPA.**
- Highest number of **sedition cases** (2020): Manipur, Assam, Karnataka, UP.
 - Among UTs, **Delhi** recorded 5 sedition cases.

'Offences against state'

- It includes cases booked under:
 - Sedition, Unlawful Activities Prevention Act (UAPA)
 - Official Secrets Act, Damage to public property
 - Imputation, assertions prejudicial to national integration.

Assam, Mizoram border dispute (The Hindu)

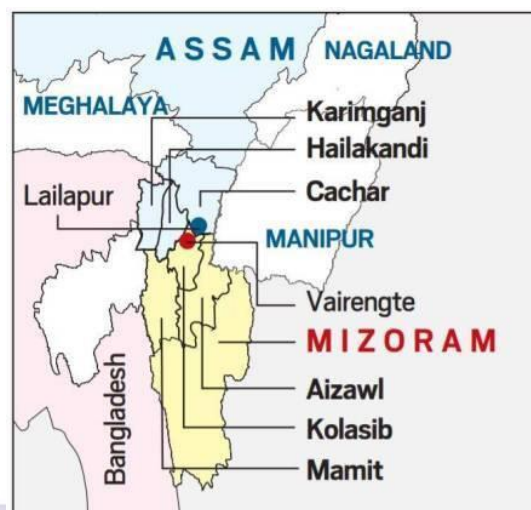
- **News context:** Assam and Mizoram have sought to ease tensions along the border.

Origin of dispute

- Mizoram claims land based on **1875 notification**.
 - It came from the **Bengal Eastern Frontier Regulation Act, 1873**.
- Assam claims land based on a **1933 notification**.
 - It demarcates a boundary between **Lushai Hills and Manipur**.

Possible solutions

- Judiciary should be approached.
- CRPF forces should patrol and monitor the region.
- Judicious use of social media platform.



Ayushman Bharat PM-JAY (PIB)

- It is **world's largest health insurance/ assurance scheme**.
 - It is fully financed by government.
- It provides cover of Rs. **5 lakhs/family/year**.
 - For **secondary and tertiary** care hospitalization.
 - Across **public and private** empanelled hospitals in India.
- **Coverage:** Approximately 50 cr beneficiaries.
- **Nodal agency:** National Health Authority (NHA)
- It is a **centrally sponsored scheme** with some **Central sector components**.
- No restrictions on family size, age or gender.
- Benefits are **portable** across the country.
- **News context:** Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) has completed 3 years.

Bharat Net project, 2011 (The Hindu)

- It launched as National Optical Fibre Network (NOFN).
 - It renamed as **Bharat-Net** in 2015.
- **Aim:** To provide **connectivity to 2.5 lakh Gram Panchayats** (GPs) through **optical fibre**.
- **Implementation:** By Bharat Broadband Network Ltd. (BBNL).
- A **Centre-State collaborative project**.
 - States are contributing **free Rights of Way** for establishing Optical Fibre Network.
- **Funding:** Universal service Obligation Fund (USOF).
 - USOF was set up for improving telecom services in **rural and remote areas of the country**.
- **News context:** Implementation of Bharat Net project in Meghalaya.

Background

- Government approved revised implementation strategy of Bharat Net through PPP mode.

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Rashtriya Gokul Mission (RGM), 2014 (PIB)

- It is to **integrated cattle development centers**, 'Gokul Grams' to develop **indigenous breeds**.
- These act as state of the art in situ training centre for Farmers, Breeders and MAITRI's.
- **Aim:** To conserve & develop **indigenous bovine breeds**.
 - Under National Programme for Bovine Breeding and Dairy Development (NPBBD).
- **Implementation:** Through "State Implementing Agency" Livestock Development Boards, i.e., SIA's (LDB's).

Naga peace process (Indian Express)

- **News context:** Tamil Nadu Governor R N Ravi has resigned as interlocutor for the Naga peace process.
 - He was the interlocutor since 2014.

Naga Political Issue:

Pre- independence:

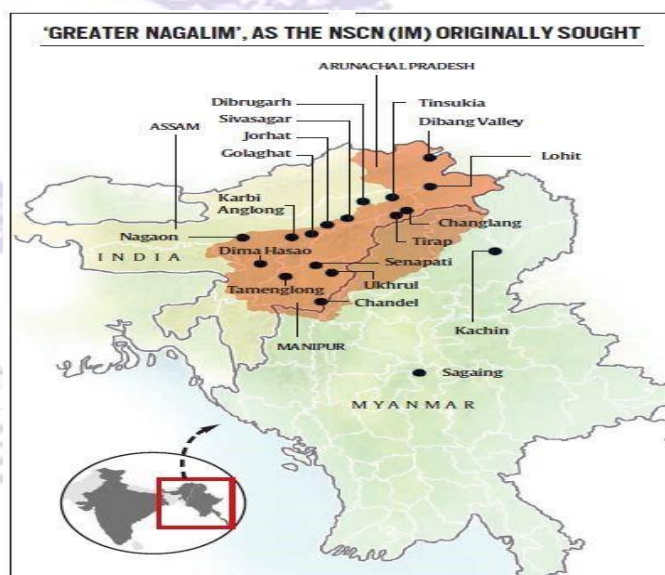
- British annexed Assam in **1826**.
- In 1881, **Naga Hills** too became part of it.
- Naga National Council (NNC) (Formed: 1946) declared **Nagaland** an independent state on **August 14, 1947**.
 - It conducted a 'referendum' in 1951, in which **"99 per cent"** supported an **"independent" Nagaland**.

Post- independence:

- In 1952, Naga Federal Government (NFG) and Naga Federal Army (NFA) were formed.
- Indian Government enacted **Armed Forces (Special Powers) Act, in 1958** to crush insurgency.

About Agreement

- NSCN (IM)-Centre **ceasefire agreement** in 1997.
- Conglomerate of seven different Naga groups also got into separate talks with the Centre since 2017.
- Centre signed a **"framework agreement" with NSCN (IM) in 2015**.
 - An "agreed position" with the NNPGs in 2017.
- **Delaying factor in signing a final deal:** NSCN (IM)'s demand for a **separate Naga flag** and **constitution**.



Ayushman Bharat Digital Mission

- It will come under **Ayushman Bharat-PMJAY**.
- It comprises 6 key building blocks (**Refer Image**).
- **Implementation:** By **National Health Authority**
- **Private stakeholders** can integrate and create their own products for the market.
- Core activities and verifications will remain with government.

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- Every Indian will get a **Health ID card**.
 - It will **store all medical details** of person.
- **Health ID**: A randomly generated **14 digit number**.
- It will be used for:
 - Uniquely **identifying persons, Authenticating** them
 - Threading their health records across multiple systems and stakeholders.
- Citizens will be able to give their doctors **one-time access** to this data during their visits to hospitals.
- **News context**: Government launched Ayushman Bharat Digital Mission to provide a digital health ID.

PARTICIPATION IN SYSTEM TO BE VOLUNTARY

AIMS TO	KEY BUILDING BLOCKS
<ul style="list-style-type: none"> ➤ Establish digital health systems and managing health data ➤ Improve quality of health data collection, storage and dissemination ➤ Provide a platform for interoperability of healthcare data ➤ Fast-track creation of updated and accurate health registries for the entire country 	<ul style="list-style-type: none"> ● Health ID ● Personal health records ● Digi Doctor ● Health facility registry ● Telemedicine ● e-Pharmacy
GUIDING PRINCIPLES	
<ul style="list-style-type: none"> ● Voluntary participation ● Privacy and security by design ● Inclusivity ● Seamless portability 	

Zozila tunnel

- **News context**: Government is pushing Zozila tunnel as showpiece infra project in Kashmir and Ladakh.

Importance:

- It will be **Asia's longest bi-directional** tunnel after completion (14.2 km long).
- All weather connectivity between **Srinagar valley and Leh**.
- It will increase connectivity between Srinagar, Dras, Kargil and Leh **via Zojila Pass**.
- Enhance safety by making NH-1 free from avalanches.



INTERNATIONAL RELATIONS

India envoy in Doha meets Taliban leader (The Hindu)

- **News Context**: Official meeting between India and Taliban leaders in Qatar.

Background:

- **Treaty of Friendship (1950)**: shows good ties.
- It further strengthened by Strategic Partnership Agreement signed in 2011.
 - It aids to build Afghanistan's infrastructure and institutions.
 - Education and technical assistance.
 - Encouraging investment in natural resources.
 - Providing duty free access to Indian market for their export.

Afghanistan location: (South Central Asia)

- It is landlocked country.
- **It is bordered by:**

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- **Iran:** west, Pakistan: south and east.
- Turkmenistan, Uzbekistan and Tajikistan: north.
- **China:** far northeast.

Need for India engagement with Taliban

- Taliban seized power.
- India made huge investments.
 - To secure assets.
 - It should engage with all parties.
- Their engagement with Pak harms our interest.
- US announcement for formation of Quad.
 - US, Uzbekistan, Afghanistan, Pakistan (exclude India).

Significance of Afghan instability

- It will revive extremism.
 - It became ground for Let, ISIS etc.
- The possibility of civil war will lead to refugee crisis.

Significance of Afghan stability

- It will help Central Asian countries:
 - To access seaports of Indian Ocean.
 - Connecting bridge between Central Asia and world.



Need of hour:

- To collectively act for safety of Afghan civilians.
- They should be given space in Central Asian architectures like SCO.
- Action for refugee crisis.

What did America achieve in Afghanistan in 20 years (Indian Express)

- **News context:** Withdrawal of USA troops from Afghanistan after two decades of waging war on terror.

An analysis of America's achievements in Afghanistan in last 20 years

- Currently, USA is contesting that it has significantly thwarted the Al-Qaeda terrorist network operating out of Afghanistan and also killed its leader Osama Bin Laden.
 - Thereby exacting justice for the 9/11 terror attacks, the primary goal of America to invade Afghanistan in 2001.
 - As per President Biden nation-building was not the goal of the USA.
- **Counter view:** Previous US Presidents saw the removal of Taliban from power as the key aspect on winning the war on terror.
 - This was the primary reason why USA continued to pour its resources in America even after dismantling Al-Qaeda network and killing Osama Bin Laden.
- USA's war on terror in Afghanistan might not be successful since the terror networks of Al-Qaeda and Islamic state are quite active in Afghanistan.
 - Recent attack of IS militants on evacuation efforts conducted by USA forces is a stark reminder about this.
- Growing factions within the Taliban (Haqqani faction) might lead to a civil war kind of situation.

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- That will further add to the instability in the region.
- That could also erode the modest gains that USA had achieved in last 20 years.

China opens first road-rail transport link to Indian Ocean (Indian Express)

- **News context:** The first shipments from railway line from Myanmar border to Chengdu in western China.

BRI: (2013)

- It is global development strategy (Chinese government).
 - It involves infrastructure development and investments.
- Members: 152 countries.
 - International organizations of Asia, Europe, Africa, Middle East, America.

2-way strategy:

- **Belt (Silk Road Economic Belt):**
 - It refers to overland routes for road and rail transportation.
- **It Covers 3 routes:**
 - China via Central Asia and Russia to Europe.
 - China to Central and Western Asia to Persian Gulf and Mediterranean Sea.
 - China to Southeast Asia, South Asia and Indian Ocean.
- **Road (Maritime Silk Road)**
 - It refers to sea routes.
 - Cover 2 routes:
 - Chinese coastal cities, via South China Sea to Indian Ocean, extending to Europe.
 - Chinese coastal cities, via South China Sea to South Pacific.



Pakistan and BRI: CPEC

- It is bilateral project.
- To promote connectivity of:
 - Highways, railways, pipelines, industrial and infrastructure development.
- It paves way for China access to:
 - Middle East and Africa from Gwadar Port.
 - Indian Ocean.
- It is part of OBOR.

China's argument why India should join OBOR:

- Entity diplomacy:
 - It suggests various ways within and across regions to make project success.
- Revival of continentalism:

China's One Belt, One Road initiative



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- As Eurasian landmass deepens linkages, Asia emerges as new economic growth engine.
- One economic continent:
 - It promotes alignment of infrastructure, trade, economic strategies in Eurasian region.
 - It is extending its Tibet railway line from Lhasa to Indian frontiers.
 - It wants us to develop trans-Himalayan economic zone of cooperation with Nepal and Bhutan.

Concerns for India

- Many roads of "belt" are inching towards India.
- It will serve as de-facto legitimization to Pakistan's rights on POK and Gilgit-Baltistan under CPEC.
- Delhi's strategic community objected to its road construction on land frontiers and port building in the Indian Ocean as "strategic encirclement".

Concerns over Afghanistan's membership in SAARC arise (The Hindu)

- **News context:** Uncertainty over present administration in Afghanistan by Taliban takeover of power given rise to membership of country in SAARC.

SAARC: (8 December 1985)

- It was established with **signing of SAARC Charter in Dhaka.**
 - **HQ:** Kathmandu, Nepal.
- Afghanistan newest member of SAARC (2005).

Importance of SAARC:

- The world's densely populated and fertile region.
- The countries share common tradition, dress, food and culture and political aspects synergizing their actions.
- It has launched FTA.
 - To increase internal trade and lessen trade gap.
- It has launched SAFTA.
 - To reduce custom duties on all traded goods to zero.
- SAARC Agreement on Trade in Services (SATIS).

Problems:

- **Countries have common problems:**
 - Like poverty, illiteracy, malnutrition, natural disasters, internal conflicts, industrial and technological backwardness.
 - Low GDP and poor socio-economic condition.

India and SAARC

- **Neighborhood first:**
 - Primacy to country's immediate neighbors.
- **Geostrategic significance:**
 - To counter China (OBOR initiative).
- **Regional stability:**
 - It helps to maintain mutual trust and peace.
- **Global leadership role:**
 - It offers India a platform to showcase its leadership.
- **Game changer for India's Act East Policy:**
 - Linking South Asian economies will bring economic integration and prosperity.

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China- Taiwan relations (Indian Express)

- **News context:** Chinese-claimed Taiwan has complained for repeated missions by China's air force near the self-ruled island.

Rationale behind such acts:

- China often mounts such missions to **express displeasure** at something Taiwan has done.
 - At shows of international support for the democratically ruled island.
- China has described its activities as **necessary to protect the country's sovereignty**.
 - And to deal with "collusion" between **Taipei and Washington**.

Main issues

- China has increased diplomatic, economic and military pressure on Taiwan.
 - As Taiwan's residents **overwhelmingly reject Beijing's demand** for political unification with the mainland.
- China has long **blocked Taiwan from taking part in the UN** and other international organizations.

China- Taiwan relations- Background:

- China claims Taiwan through its **"one China" policy** since Chinese civil war (1949).
- Taiwan is self-governed and de facto independent; but it has never formally declared independence from the mainland.
- Under the **"one country, two systems" formula**, Taiwan would have the right to run its own affairs.
 - A similar arrangement is used in **Hong Kong**.
- Presently, Taiwan is claimed by China, which refuses diplomatic relations with countries that recognise the region.

Indo- Taiwan relations:

- Although both do not have formal diplomatic ties, Taiwan and India have been cooperating in various fields.
- **India has refused to endorse the "one-China" policy** since 2010.

Logistics agreements and their benefits (The Hindu)

News context: India to conclude bilateral logistics agreement with Russia (Reciprocal Exchange of Logistics Agreement (RELOS)) and UK.

Logistics Agreements:

- These are administrative arrangements facilitating access to military facilities for **exchange of fuel and provisions** on mutual agreement.
 - And **simplifying logistical support** and increasing operational turnaround of the military when operating away from India.
- **India has signed several logistics agreements with:**
 - All Quad countries, France, Singapore, South Korea.
 - **First was signed with the U.S.** in 2016 (Logistics Exchange Memorandum of Agreement (LEMOA))

Benefits of such logistics agreements:

- The Navy has been the **biggest beneficiary** of these administrative arrangements, signed with several countries.
- It improves **operational turnaround** and increasing **inter-operability** on the high seas.

LEMOA

- It is a tweaked **India-specific version** of the Logistics Support Agreement (LSA).
- It gives access, to both countries, to designated **military facilities on either side** for the purpose of refuelling and replenishment.

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Food Emergency in Sri Lanka (The Hindu)

- There is food and resources shortage for essentials, such as:
- Petroleum, Sugar, Dairy products, Wheat, Medical supplies.
- It is also caused because of ban import of chemical fertilizers and adopting an **organic only** approach.

Challenges:

- Sri Lanka does not have a universal PDS or ration cards to ensure essential goods reach all consumers.

Eastern Economic Forum (EEF) (Indian Express)

News Context: 6th EEF of 2021 was held in Vladivostok, Russia recently.

- It was established by **Vladimir Putin in 2015**.
- It supports **economic development of Russia's Far East**.
 - To expand international cooperation in **Asia-Pacific region**.
- It takes place each year in **Vladivostok, Russia**.
- **It discusses:** World economy, Regional integration.
 - New industrial and Technological Sectors.
 - Global challenges facing Russia and other nations.

Participants: Leading partner countries in Asia-Pacific region, ASEAN.

FAR EAST:

- It is easternmost part of Russia.
- It borders 2 oceans: **Pacific and Arctic**.
- It borders 5 countries: **China, Japan, Mongolia, USA, Korea**.
- **Resources here:** Diamonds, Gold, Tungsten, Fish, Seafood.
- 1/3rd of all coal reserves and hydro-engineering resources of country are here.
- 30% of total Russian forest area.

Karbi Agreement (The Hindu)

- It is a **tripartite agreement among 5 insurgent groups of Assam, Centre and States**.
- It is to **end years of violence** in KarbiAnglong region.
- **Groups signed peace accord include:**
 - Karbi Longri NC Hills Liberation Front (KLNLFF),
 - People's Democratic Council of KarbiLongri (PDCK),
 - Kuki Liberation Front (KLF),
 - United People's Liberation Army (UPLA) and
- **Karbhis:** They are **major ethnic community of Assam**.
- They are marked by **ethnic violence, killings**, abductions, taxation **since late 1980s**.
- Originally, **they are one of Northeast India's tribal groups**.
- **Found in:** KarbiAnglong and Dima Hasao (formerly North Cachar) hills districts.

Highlights of Agreement:

- More than 1,000 armed cadres have abjured violence and joined mainstream.
- It provides rehabilitation.
- Assam will set up a Karbi Welfare Council for focused development of Karbi people living outside 'KarbiAnglong Autonomous Council' (KAAC) area.
- Protection of identity, language, culture of Karbi people.

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International Fund for Agricultural Development (IFAD), 1977 (Down to Earth)

- It is specialized UN agency.
- It is an outcome of World Food Conference (1974).
- It provides grants and loans with low interest for allied projects.
- **HQ:** Rome, Italy.
- **Members:** 177 (India is member).
- **Note:** It publishes Rural Development Report every year.
- **3-fold objective of IFAD:**
 - To increase productive capacity of poor people.
 - To increase benefits for market participation.
- To strengthen environmental sustainability & climate resilience.

Iran nuclear deal (Joint Comprehensive Plan of Action, JCPOA), 2013-2015 (The Hindu)

- **News Context:** USA and Germany stepped up pressure on Iran to return soon to talks on its nuclear programme.
- It is result of negotiations between Iran and P5+1.
 - China, France, Germany, Russia, UK, USA, and EU.
- Under the deal, Tehran agreed to cut its stores of key components for nuclear weapons.

Background:

- Trump pulled US out of accord (2018).
- Opted for maximum pressure.
- Iran responded by enriching of uranium and building of centrifuges.
- January 2020 drone strike on Islamic Revolutionary Guard Corps Commander Gen. Qasem Soleiman.
- Iran announced that it would no longer observe the JCPOA's restraints.
- **Impact on India:** Both have strategic interests in keeping the relationship sustainable.
- **Energy:** Until 2010-11, Iran was India's 2nd largest oil supplier after Saudi Arabia.
 - Now 3rd largest supplier (Iraq and Saudi Arabia).
- **Chabahar port:** It is financial and strategic investment for India.
- **Stability in West Asia:** It is a priority for India.
 - It will test durability of the "strategic partnership" among them.

Recruitment of Indian citizens to work in the Portuguese Republic (PIB)

- **News context:** Cabinet approved signing of this agreement.

Historical background:

- Portugal's refusal to surrender Goa, Daman Diu and Dadra and Nagar Haveli (decline in bilateral ties).
- Indian military forces liberating Goa in 1961 through Operation Vijay (decline in diplomatic relations).
- **In 1974:**
 - Treaty signed recognizing India's sovereignty over Goa, Daman & Diu, Dadra & Nagar Haveli (ties re-established).
- **Relation after 1974:**
 - It became 1st European and western country, 4th outside East Asia Summit, to sign MOU.

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- **Impact:** It will provide destination for Indian migrants in EU.
 - New opportunities for skilled workers and professionals.
 - Lead to recruitment of workers.

13th BRICS Summit (the Hindu)

- **News context:** Chairmanship: India.
- **BRICS:** Group of 5: Brazil, Russia, India, China, South Africa.
 - South Africa joined in 2011.
 - Chairmanship rotates annually.
- **4 Priority areas:** Multilateral System, Counter Terrorism.
 - Using Digital and Technological Tools for achieving SDGs.
 - Enhancing P2P exchanges.

Climate Action and Finance Mobilization Dialogue (CAFMD) (the Hindu)

- This was one of main tracks of **U.S.-India Agenda 2030 Partnership** that USA and India announced at **Leaders Summit on Climate** in April 2021.
- It will deliver **climate finance** primarily as grants and concessional finance, as envisaged under the **Paris Agreement** for strengthening climate action.

Climate Action and Finance Mobilization Dialogue (CAFMD)

Mobilize finance and speed clean energy deployment

Demonstrate and scale innovative clean technologies needed to decarbonize sectors including industry, transportation, power, and buildings

Build capacity to measure, manage, and adapt to the risks of climate-related impacts



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QUAD (Indian Express)

- **News context:** US President hosted 1st in-person meeting of Quad countries.

About Quad grouping

- It includes **Japan, India, USA, Australia**.
- They share a vision of an **open and free Indo-Pacific**.

China's views on the Quad

- The strategic community in China had branded it an emerging **"Asian NATO"**.

Challenges

- There have been calls for **institutionalization**.
 - i.e. a formal agreement to transform the group into a **formidable anti-China bloc**.

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Pakistan Occupied Kashmir (PoK) (Indian Express)

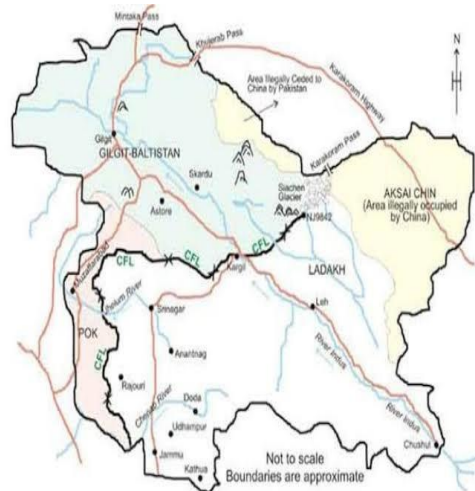
- **New context:** Protesters in Pallandari region of PoK are demanding independence from Pakistani clutches.

About Issues:

- Protestors said that their rights were **trampled upon**.
 - They accused Pakistan of giving **second-class citizen treatment** to them for the past seven decades.
- Administration is also accused of **exploiting the citizens politically and economically**.

Current Status of PoK:

- PoK is called "**Azad Jammu & Kashmir**".
- It came into being after **1949 ceasefire** between India and Pakistan.
- It comprises parts of **erstwhile state of J&K** that were occupied by Pakistani forces.
- Pakistan's constitutional position on PoK is that it is not a part of the country, but the "**liberated**" part of Kashmir.



India's stand on PoK

- Since 1947, India has maintained its consistent policy that **PoK is an integral part of India**.
- India has also made clear to the world that any issue related to **PoK is the internal matter of India**.
- **Note:** PoK is part of the **newly created UT of J & K**.
 - Gilgit-Baltistan is in the **UT of Ladakh**.

World Bank Business Rankings (The Hindu)

- **News context:** World Bank Group decides to discontinue publication of 'Doing Business' rankings of country business climates.
 - It is decided after a review of **data irregularities in 2018 & 2020 reports**.

Key Details:

- Irregularities had affected four countries:
 - **China, Saudi Arabia.**
 - **UAE, Azerbaijan.**
- A probe of data irregularities cited **undue pressure by top bank officials** to boost China's ranking in 2017.
- This raised **ethical matters** involving former bank staff and board officials.

Significance of Report:

- World Bank's annual report matters to several nations, **especially developing ones**.
 - Since it greatly **influenced investor decisions** by releasing a ranking of economies based on how easy it is to open up, and operate, a business.

Doing Business project (Launched: 2003)

- It provides **objective measures of business regulations** and their enforcement across 190 economies and selected cities at sub-national and regional level.
- It looks at domestic **small and medium-size companies**.
- It ranks countries on the basis of **Distance to Frontier (DTF) score**.
 - DTF score highlights **gap of an economy with respect to global best practice**.

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WHO pre-qualification or Emergency Use Listing (EUL) (Indian Express)

- **News context:** India is seeking for WHO's EUL to Bharat Biotech's Covaxin.

Key Details

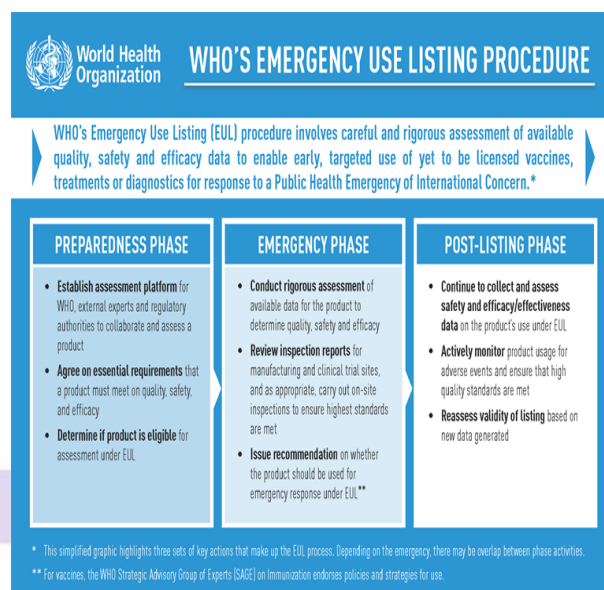
- EUL is necessary for a vaccine company to supply vaccines to global facilities such as **COVAX or international procurement**.
- Post approval people wanting to travel abroad will not have difficulty.

About WHO's EUL

- It is a **risk-based procedure** for assessing and listing unlicensed vaccines, therapeutics and in vitro diagnostics.
- **Aim: To expedite the availability** of these products to people affected by a public health emergency.

Eligibility criteria:

- Disease for which the product is intended is:
 - Serious or immediately **life threatening**
 - Has the potential of **causing an outbreak, epidemic or pandemic**.
 - It is reasonable to consider the product for an EUL assessment.
- E.g., there are no licensed products for the indication or for a critical subpopulation (e.g., children).
- Existing products have not been successful in eradicating the disease or preventing outbreaks.
- Product is manufactured in compliance with:
 - **Current Good Manufacturing Practices (GMP)** in the case of medicines and vaccines
 - Functional **Quality Management System (QMS)** in the case of IVDs.



AUKUS Alliance (The Hindu)

- **News context:** UK, USA, Australia announces a historic security pact in Asia-Pacific.
- These nations have agreed to:
 - Enhance **development of joint capabilities and technology** sharing.
 - Foster **deeper integration of security and defence-related** science, technology, industrial bases and supply chains.
- Under this, **Australia** would build a fleet of **nuclear-powered submarines** with help USA and UK.
 - This capability aimed at **promoting stability in Indo-Pacific region**.

Rationale behind formation of this Alliance:

- Three leaders referred repeatedly to **regional security concerns** which they said had "grown significantly".
 - In recent years, China has been accused of raising tensions in disputed territories such as **South China Sea**.

China's Reaction:

- China has **condemned agreement** as "extremely irresponsible".
- **China's concerns:** Alliance **undermines regional peace and stability** and intensifies arms race.
 - It shall **reinvent a "Cold War mentality** and ideological prejudice".

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Shanghai Cooperation Organization (SCO), 2001 (The Hindu)

- It is a **permanent intergovernmental** international organization.
- It was created in **Shanghai (China)**.
- It was signed during **St. Petersburg SCO Heads of State meeting in 2002**, and entered into force in **2003**.
- Official Languages: **Russian and Chinese**.
- **Note: Uzbekistan joined it in 2001**, following this Shanghai 5 was renamed as SCO.
- **Note: India and Pakistan** became members in **2017**.
- Member Countries:
 - Kazakhstan, China, Kyrgyzstan, Russia
 - Tajikistan, Uzbekistan, India, Pakistan
 - **Iran (Upcoming member)**

THE SHANGHAI COOPERATION ORGANISATION



Significance of SCO for India

- Its significance for India lies in **economics and geopolitics** with the **Eurasian states**.
- It is a **potential platform** to advance **India's Connect Central Asia policy**.
- It provides the **only multilateral platform** for India to deal in close proximity with Pakistan and Afghanistan.
- **News context:** 21st meeting of the SCO Council of Heads of State was held in Dushanbe, Tajikistan.
 - Meeting was chaired by **H.E. Emomali Rahmon, the President of Tajikistan**.

SCO Peaceful Mission 2021 (The Hindu)

- **News context:** Indian Military Contingent recently participated in 6th Edition of SCO Peaceful Mission 2021 at Orenburg, Russia.

SCO Peaceful Mission

- A Multilateral Exercise
- Conducted biennially as part of military diplomacy.
- Shanghai Cooperation Organization (SCO) member states.
- **Aim:**
 - To foster close relations between SCO member states
 - To enhance abilities of the military leaders to command multi-national military contingents.
 - To enable sharing of best practices between the Armed Forces of SCO nations.

Collective Security Treaty Organization (CSTO), 2002 (The Hindu)

- It is an intergovernmental military alliance (6 countries).
- Its origin can be traced to **Collective Security Treaty, 1992 (Tashkent Treaty)**.
- **HQ: Moscow**.
- **Objectives:** To strengthen **peace, international and regional security** including:
 - **Cyber security** and stability
 - Protection on a **collective basis of independence**

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- **Territorial integrity**
- **Sovereignty** of member states.
- **Members:** Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russian, Tajikistan.
 - **Observer States: Afghanistan, Serbia.**
- **News context:** CSTO is planning to hold large military drills in Tajikistan soon.

Reason behind this move

- **Tajikistan** is the **only country** out of the six-member bloc led by Russia that **shares a border with Afghanistan**.

Rohingya Crisis (Indian Express)

- **News context:** ARSA Refuge.
- ARSA (Harakah al-Yakin, or 'Faith Movement').**
- Currently active among Rohingya residents in Myanmar and Bangladesh.
 - Fighting for rights of Rohingya in Myanmar.

Protection Available to Rohingyas:

- 1951 Refugee Convention and its 1967 Protocol:
- International Covenant on Civil and Political Rights (ICCPR)
 - Provide same fundamental rights and freedoms as for nationals.
 - Right to equality before the law, equal protection of the law and non-discrimination.

G-33 (or Friends of Special Products in agriculture) (Indian Express)

- It is a coalition of developing countries formed during **Cancun ministerial conference of the WTO**.
 - **Aim:** To protect **interest of developing countries** in agricultural trade negotiations.
- **Members:** 47 (**India is a member**).
- The group has **"defensive" concerns regarding agriculture** in relation to WTO negotiations.
- It seeks to **limit degree of market opening** required of developing countries.
- It has advocated the **creation of a:**
 - **Special products exemption:** It would allow developing countries to exempt certain products from tariff reductions.
 - **Special safeguard mechanism:** It would permit tariff increase in response to import surges.

Food For Thought

WHAT G33 PROPOSES

Include foodgrain procurement from farmers at MSP & their distribution at subsidised rates to poor in global rules of agriculture.

Such sops must not be included in the category of trade distorting subsidies



- ♦ Amend Agreement on Agriculture of WTO
- ♦ Says current rules suggest fixed subsidy of 10% for food procurement to feed the poor
- ♦ Argues that old methodology used for subsidy calculation
- ♦ It does not account for inflation & is based on a price index of 1986-88



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Pakistan exploiting scope of uranium enrichment in Gilgit Baltistan (The Hindu)

- **Pakistan has given a free hand to Chinese mining** companies to plunder natural resources in Gilgit Baltistan and Khyber Pakhtunkhwa.

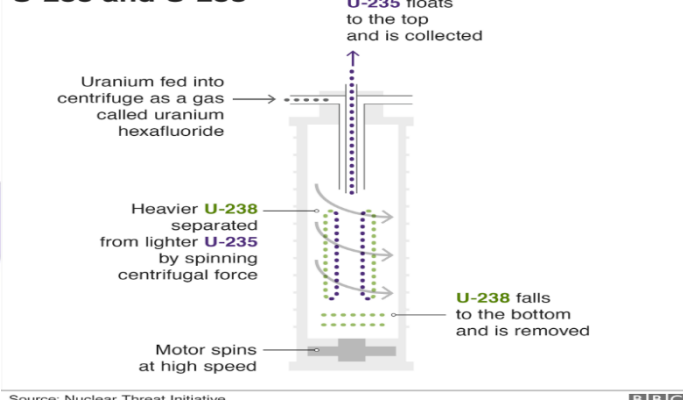
Uranium and its uses

- **Occurrence:** In low concentrations in **soil, rock and water.**
 - It is commercially extracted from uranium-bearing minerals.
- Though it is radioactive, **its high density makes it effective in halting radiation.**
- Its high density also makes it **useful as counterweights in aircraft and industrial machinery.**

Uranium Mining In India:

- Uranium deposits occur in the **Dharwar rocks.** It occurs along the
 - **Singbhum Copper** belt (Jharkhand)
 - Udaipur, Alwar and Jhunjhunu districts of Rajasthan
 - **Durg** district of Chhattisgarh
 - Bhandara district of Maharashtra
 - **Kullu district** of Himachal Pradesh
- Significant reserves were recently discovered in parts of **Andhra Pradesh** and **Telangana between Seshachalam forest and Sresailam.**

How a centrifuge separates uranium atoms, U-235 and U-238



Source: Nuclear Threat Initiative

BBC

Goal of uranium enrichment

- To raise **percentage levels of U-235**, this is often done through the **use of centrifuges** machines that spin a form of **unrefined uranium** at high speeds.
- Uranium contains a **rare radioactive isotope** (U-235). U-235 can be used to:
 - **Power nuclear reactors** at low enrichment levels.
 - **Fuel nuclear bombs** at much higher levels.

UN Food Systems Summit (The Hindu)

- **News context:** It is taking place in New York.
 - It will seek to set stage for global food systems transformation.
 - It is to achieve SDG by 2030.

Objectives and outcomes:

- Awareness of food systems.
- Focus on entire sustainable development agenda.
 - Urgency of transforming food systems.
- Align stakeholders around a common understanding and narrative.
- Form foundation for concerted action.
- Making food and food systems a more widespread issue
- Advocacy and action to achieve the 2030 Agenda.
- Recognizing need for inclusivity and innovation in food systems governance and action.
- Motivate and empower stakeholders who support food systems transformation.
- Development of improved tools, measurement, and analysis.
- Catalyze, accelerate, and enlarge bold action for transformation of food systems by all communities.

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Nuclear Site Images Won't be Shared with IAEA – Iran (The Hindu)

- **News context:** EU and U.S. have urged Iran to allow inspectors from IAEA to access a nuclear site.
 - But Iran argued the facility was exempt from a recent agreement with UN watchdog.

Background

- IAEA and Tehran struck the three-month monitoring agreement in February to cushion the blow of Iran.
- For reducing its cooperation with the agency.
- The agreement was extended several times.

International Criminal Court (ICC)

- **HQ: The Hague.**
- Court of **last resort for prosecution** of:
 - Genocide, War crimes, Crimes against humanity.
- **1st permanent, treaty based** international criminal court.
- **Rome Statute** (2002) is its founding treaty.

Voting power of ICC:

- Each state party **has 1 vote.**
 - Every effort has to be made to reach decisions **by consensus.**
 - **If consensus cannot** be reached, decisions are made by vote.
- **News context:** Sudan decision to hand over Omar al-Bashir to ICC.

Taiwan Strait (Formosa Strait or the Tai-hai)

- Separates mainland **China** from the **island of Taiwan.**
- It makes up part of the **South China Sea.**
- Its northern portion is linked to **East China Sea.**



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ECONOMY

National Monetisation Pipeline (NMP) (The Hindu)

- **News context:** NITI Aayog recommendations to achieve monetization goal.

NMP

- It aims to value brownfield projects by engaging private sectors.
 - By transferring revenue rights not ownership.
 - By using funds generated for infrastructure creation.
- It provides potential investors a ready list of assets to generate investment.

NITI Aayog recommendations: To improve retail participation

- To make it a success:
 - The government should give Income tax breaks.
 - To bring InvITs under ambit of IBC.
- Though this will entail a cost in the form of loss of revenue for exchequer, the long-term benefits may outweigh the cost.
 - Because linking investments in specified bonds with the capital gains exemption had proved to be success in the past.
- Since, trusts are not considered as 'legal person', the IBC regulations are not applicable for InvIT loans.
 - Hence, the lenders do not have existing process for recourse to project assets.
- While the lenders are protected under the SARFAESI Act, 2002 and the Recovery of Debts and Bankruptcy Act, 1993, the provision of recourse under IBC regulations will bring in added level of comfort for the investors.
 - It will help lenders access effective debt restructuring and resolution.

Overseas settlement of G-sec deals on anvil: Das (The Hindu)

- **News context:** RBI planning to enable international settlement of transactions in G-secs through ICSDs.

G-sec:

- It is tradable instrument.
 - Issued by Centre or State.
- **Such securities are:**
 - **Short term:** (usually called treasury bills).
 - Maturity of less than 1 year- issued in 3 tenors (91,182 and 364 days).
 - **Long term:** (Government bonds or dated securities).
 - With maturity of 1 year or more.
- Centre issues both:
 - State issue only bonds or dated securities called SDLs.

International CSD:

- It settles trades in international securities.
 - Such as Eurobonds.
 - Many also settle trades in various domestic securities.
 - Through direct or indirect (through local agents) links to local CSDs.
- G- Sec prices fluctuate sharply in secondary markets.

Factors affecting their prices:

- Demand and supply

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- Changes in interest rates and macroeconomic factors.
- Developments in other markets like money, foreign exchange, credit and capital.
- Developments in international bond markets, specifically USA treasuries.
- Policy actions by RBI like change in repo rates, CRR and open-market operations.

Core sector logs 9.4% growth (Indian Express)

Core sector:

- It comprises 40.27% of weight of items in IIP.
 - 8 core sector industries in decreasing order of their weightage:
 - Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.

Index of Industrial Production:

- It measures changes in volume of production of industrial products during given period.
- It is compiled and published monthly by NSO, Statistics Ministry.
- **It measures growth rate of industry groups classified under:**
 - **Broad sectors:** Mining, Manufacturing, Electricity.
 - **Use-based sectors:** Basic Goods, Capital Goods, Intermediate Goods.
- Base Year for IIP is 2011-2012.

Edible Oil Prices (Indian Express)

- **News context:** Edible oil prices are likely to reduce soon as international commodity futures show a declining trend and the production of domestic oilseed crops.

Rise in the prices of Edible Oil:

- retail prices of 6 edible oils: Groundnut, mustard, vanaspathi, soya, sunflower, palm oil had risen.
- **This was due to:**
 - **Surge in global prices** and lower domestic production of soybean (India's largest oilseed).
 - **Excessive buying of edible oil by China.**
 - Many major oil producers pursuing biofuel policies.
 - **Governmental taxes and duties.**

India's Dependence on Edible Oil:

- World biggest vegetable oil importer.
- It imports about 60%.
 - Leaving country's retail prices vulnerable to international pressures.

It imports:

- **Palm oil:** Indonesia and Malaysia.
- **Soyamilk:** Brazil and Argentina.
- **Sunflower oil:** Russia and Ukraine.

Facts about Edible Oils:

- **Primary sources:**
 - Soybean, Rapeseed, Mustard, Groundnut, Sunflower, Safflower, Niger.
- **Secondary sources:**
 - Oil palm, Coconut, Rice Bran, Cotton seeds, Tree Borne Oilseeds.
- **Major challenges:**
 - Growing in largely rain-fed conditions (around 70% area).
 - High seed cost (Groundnut and Soybean).
 - Small holding with limited resources.
 - Low seed replacement rate and low productivity.

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- Government announced the **National Edible Oil Mission-Oil Palm (NMEO-OP)** to boost domestic oilseed production.
- **Aim:**
 - To harness domestic edible oil prices dictated by expensive palm oil imports.
 - To raise the domestic production of palm oil by three times by 2025-26.
 - To raise the area under oil palm cultivation to 10 lakh hectares by 2025-26 and 16.7 lakh hectares by 2029-30.
 - Special emphasis on north-eastern states and the Andaman and Nicobar Islands.
 - Oil palm farmers will be provided financial assistance.
- The government has also launched the **Kharif Strategy 2021 for oilseeds**.
- It will bring an additional 6.37 lakh hectare area under oilseeds.

Account Aggregators (AA) (Indian Express)

- It is Non-Banking Financial Corporation, engaged in Business of providing.
- **AA framework:** It was created through inter-regulatory decision by RBI.
- **Other regulators:** SEBI, IRDA, PFRDA.
 - Financial sector will have many AAs.
- **Functions of AA:** It has 3 tier structure:
 - Account Aggregator.
 - FIP (Financial Information Provider).
 - FIU (Financial Information User).
- **FIP:** It Holds customers data.
 - It can be a bank, NBFC, mutual fund, insurance repository or pension fund repository.
- **FIU:** It Consumes data from FIP.
 - It provides various services to the consumer.
 - It lends borrower's data to bank that wants access to determine if borrower qualifies for a loan.
- **Banks play dual role:** As an FIP and FIU.
- **Benefits:** It makes possible for banks, tax authorities, other finance firms to aggregate data of customers.
 - It helps banks to reduce transaction costs.

PLI Scheme for Textiles (Indian Express)

- It is to give incentives on incremental sales.
- It is to boost domestic manufacturing (Aatmanirbhar bharaat).
- To cut down import bills.
- To encourage local companies to expand manufacturing units.
- To approved for automobiles, chemical cells, food processing etc.
- **Eligible producers:**
 - Any person or company willing to invest minimum Rs 300 crore.
 - Investors willing to spend minimum Rs 100 crore.

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Financial Stability and Development Council (FSDC) (Indian Express)

- **News context:** 24th meeting of FSDC.
 - It deliberated on various mandates of FSDC and macro prudential supervision of economy.
- It discussed issues related to:
 - Management of stressed assets.
 - Strengthening institutional mechanism for financial stability analysis.
 - Framework for resolution of financial institutions and issues related to IBC.
 - Data sharing mechanisms of government authorities.
 - Internationalization of Indian rupee.
 - Pension sector related issues.

FSDC: (December 2010)

- It was set up by Government as apex level forum.
- Chairman: **Finance Minister.**
- Members include:
 - Heads of financial sector Regulators (RBI, SEBI, PFRDA, IRDA & FMC).
 - Finance Secretary and/or Secretary, Department of Economic Affairs.
 - Secretary, Department of Financial Services.
 - Chief Economic Adviser.
- It can invite experts to its meeting if required.

Cryptocurrency (The Hindu)

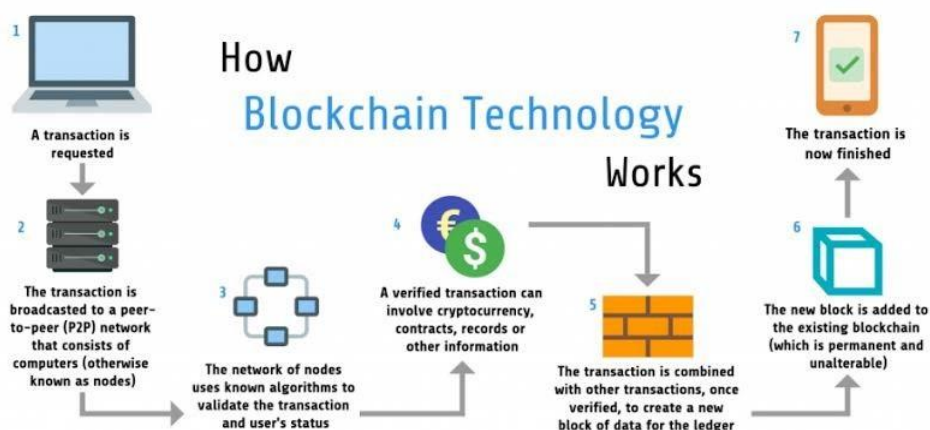
- These are **digital currencies** in which **encryption techniques** are used to:
 - **Regulate generation** of units of currency.
 - **Verify** transfer of funds, operating independently of a central bank.
- **Eg:** Bitcoin, Ethereum etc.
- **News context:** RBI continues to have "serious and major" concerns about cryptocurrencies.

Status of Cryptocurrencies in India

- An **inter-ministerial panel on cryptocurrency** has recommended that:
 - All private cryptocurrencies, except any virtual currencies issued by state, will be prohibited in India.

Why is RBI against cryptocurrencies?

- No sovereign guarantee and hence are **not legal tender.**
- Their speculative nature makes them **highly volatile.**
- **Malware** threats.
- **Money laundering.**



SC Garg Committee recommendations (2019)

- **Ban** anybody who mines, hold, transact or deal with cryptocurrencies in any form.
- It recommends a **jail term of one to 10 years** for exchange or trading in digital currency.

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Privatisation of Railways (The Hindu)

- **News context:** Employees of the N-W Railway (NWR) protested against privatization of railways.

Aims of Rail Privatisation

- To bring **modern technology** rolling stock with reduced maintenance.
- To reduced transit time.
- To boost **job creation**.
- To provide enhanced **safety**.
- To provide **world-class travel experience** to passengers.
- To **reduce demand-supply deficit** in the passenger transportation sector.

Recent decision of Railways Ministry:

- It announced that **151 trains** in 109 pairs of routes will be operated **by private sectors**.
 - It comprises **just 5%** of Express and Mail services operated by Indian Railways.
- Private trains will start operating tentatively **in 2023** and in 12 clusters.

Input Tax Credit (ITC) (The Hindu)

- **News context:** SC has confirmed a Madras HC judgment which upheld a fiscal formula included in the Central GST Rules.

Background

- Madras HC had held recently that **Section 54(3)** of CGST Act does not infringe on **Article 14 of the Constitution**.
 - **Section 54(3)** allows for a **refund of ITC** where the accumulation is due to an inverted duty structure.

About ITC

- It is the tax that a business **pays on a purchase** and that it can **use to reduce its tax liability** when it makes a sale.
 - **Input credit means** at the time of paying tax on output, you can reduce the tax you have already paid on inputs and pay the balance amount.
- **Note:** A business under **composition scheme** cannot avail of input tax credit.
 - **ITC cannot be claimed for personal use** or for goods that are exempt.

T+1 settlement system (Indian Express)

- SEBI has **offered T+1 settlement system** for **stock Market exchanges**.
- If stock exchange agrees to proposal.
 - Investors will get money for shares they sold or bought in their accounts faster, and in a safer and risk-free environment.

About T+1, T+2, T+3 cycles:

- T+1, T+2, T+3 are abbreviations that refer to **settlement date of security transactions**.
- **"T" stands for transaction date**, which is the day, the transaction takes place.
- The numbers 1, 2, or 3 denote how many days after transaction date the settlement or transfer of money and security ownership takes place.
- **Stocks and mutual funds** are usually T+1.
 - **Bonds and money market funds** vary among T+1, T+2, and T+3.

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Insolvency and Bankruptcy Code (IBC) (The Hindu)

- **News context:** SC has said "judicial delay" was main reason for failure of insolvency regime in India prior to the 2016 IBC.

About the issue

- IBC mandates a **330-day outer limit** for conclusion of **corporate insolvency resolution process (CIRP)**.
- However, a parliamentary panel report published last month stated that **more than 71% cases** have been pending before tribunals for over 180 days.
- **Causes for delays:**
 - National company law appellate tribunal takes considerable time in admitting CIRPs
 - Multiplicity of litigation
 - Appeals to the NCLAT and the Supreme Court
- **Impacts of such delays:** These **affect the subsequent implementation** of the plan.

About IBC (2016)

- It aims to **streamline and speed up the resolution process** of failed businesses.
- It also **consolidates provisions of the current legislative framework** to form a common forum for debtors and creditors of all classes to resolve insolvency.

'Bad bank' setup to clear the NPA mess (The Hindu)

- **News context:** 2 new entities to acquire stressed assets from banks and then sell them in the market.
- **National Asset Reconstruction Company Limited (NARCL)** has been incorporated under **Companies Act**.
- Another entity: **India Debt Resolution Company Ltd (IDRCL)**.
- **NARCL-IDRCL structure is the new bad bank.**
- To make it work, government has Okayed use of Rs 30,600 crore to be used as a guarantee.

About the Programme

- It will be **5 years guarantee** for NARCL issued security receipts to banks.
- Under mechanism, the NARCL will acquire assets by making an offer to lead bank.
- Private sector **asset reconstruction firms (ARCs)** may also be allowed to outbid NARCL.
- Separately, public and private lenders would combine forces to set up an **India Debt Resolution Company (IDRC)**.
 - That would manage these assets and try to raise their value for final resolution.

Its working

- A **15% cash payment** would be made to banks based on some valuation and rest will be given as security receipts.
- Once NARCL and IDRC have **finally resolved** asset.
 - **Balance 85%** held as security receipts **would be given to the banks.**
- If bad bank is **unable to sell** the bad loan, or has to sell it at a loss.
 - Then **Government guarantee will be invoked.**
 - **Difference** between what commercial bank was supposed to get and what bad bank was able to raise will be **paid by Government.**

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National Financial Reporting Authority (NFRA), 2018 (The Hindu)

- It was constituted under **section 132 (1) of Companies Act, 2013.**
- **Aims:** To enforce **auditing standards and ensuring quality of audits.**
 - To **enhance investor and public confidence** in financial disclosures of companies.
- **Composition:** Chairperson (Appointed by Government).
 - **Members:** Maximum 15.
- **Functions and Duties:**
 - Recommending accounting and auditing policies and standards to be adopted by companies for approval by Government.
 - **Monitor and enforce compliance** with accounting standards and auditing standards.
- It can probe:
 - **Listed companies**
 - **Unlisted public companies** (having paid-up capital of **no less than Rs 500 cr** or annual turnover of **no less than Rs 1,000 cr**)
- It can investigate professional misconduct committed by members of the **Institute of Chartered Accountants of India (ICAI)** for prescribed class of body corporate or persons.
- **News context:** NFRA will set up a single stakeholders' advisory group as well as a research cell.

IPO (Initial Public Offering) Grey Market (Indian Express)

- When companies wish to raise funds to fuel their growth.
 - They sell a part of their stock on stock market.
- But, it is an unofficial market where IPO shares or applications are bought and sold before they become available for trading on stock market.
 - It is called parallel market or **over-the-counter market.**
- **Concern:** Since it's unofficial, there are no regulations to govern it.
 - SEBI, stock exchanges, brokers have no part to play in it.
 - These transactions are undertaken in cash on a one-on-one basis.
- **Kostak rate:** It relates to an IPO application.
 - So, the rate at which an investor buys an IPO application before listing is termed the Kostak rate.

Investors' interest in Grey Market:

- If an investor misses deadline for IPO application or wishes to buy more shares then they can approach the IPO grey market.
- **Concerns:**
 - It performs outside SEBI's reach.
 - No guarantees.
 - Transactions are related to trust and risk.

Stablecoin (Indian Express)

- It is a type of **cryptocurrency** that is typically **pegged to an existing government-backed currency.**
- Majority of stablecoins that currently exist use the **dollar as their benchmark asset.**
 - But many are also **pegged to other fiat currencies** issued by governments like the euro and yen.
- Hence, the price of stablecoins **fluctuates very little**, unlike other cryptocurrencies.

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- These are useful because they allow people to transact more seamlessly in cryptocurrencies that function as investments, such as Bitcoin.
- They form a bridge between **old-world money and new-world crypto**.
- **Note:** 1st Stablecoin, **Tether** was created in 2014.

How Agri Infra Fund is strengthening primary Agri Co-Op Societies? (The Hindu)

- **News context:** AIF has given a major boost to the strengthening of Primary Agricultural Cooperative Societies (PACS).

Latest modifications approved by Government in the Central Sector Scheme of Financing Facility under 'Agriculture Infrastructure Fund'

- Eligibility has now been extended to:
 - State Agencies/APMCs
 - National & State Federations of Cooperatives
 - Federations of FPOs
 - Federations of SHGs.
- **For APMCs, interest subvention** for a loan **upto Rs. 2 crore** will be provided for each project of different infrastructure types.
 - E.g. cold storage, sorting, grading and assaying units, silos, et within the same market yard.
- Power has been delegated to **Minister of Agriculture & Farmers Welfare** to make necessary changes.
- Period of **financial facility** has been extended **upto 2025-26**.
 - While **overall period** of the scheme has been extended **to 2032-33**.

Agriculture Infrastructure Fund:

- It is a **medium-long term debt financing facility** for investment in viable projects for:
 - Post-harvest management infrastructure,
 - Community farming assets through **interest subvention and credit guarantee**.
- **Rs. 1 Lakh Crore** will be provided by banks and financial institutions as loans with **interest subvention of 3% per annum**.
 - It will provide credit guarantee coverage **under CGTMSE** for loans up to Rs. 2 Crores.
- **Interest subvention:** All loans under this financing facility will have **interest subvention of 3% per annum** up to a **limit of Rs. 2 crore**.
 - This subvention will be available for a **maximum period of seven years**.
- **Credit guarantee:** It will be available for eligible borrowers from this financing facility under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme **for a loan up to Rs. 2 crore**.
- Fee for this coverage **will be paid by the Government**.
- **Management:** Through an online Management Information System (MIS) platform.

Central Bank Digital Currency (CBDC) (Indian Express)

- **News context:** RBI to implement it.

Purpose of CBDC

- Financial advisory services firm has listed 4 major uses of CBDC:
 - 'Fit-for-purpose' money used for social benefits and other targeted payments in a country.
 - Faster cross-border remittance payments.
 - Payment instruments could be made available for payment transactions.
- Instant lending to micro, small, and medium enterprises (MSMEs), can be possible with it.

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CBDC or National Digital Currency

- It is simply digital form of a country's fiat currency.
- Central bank issues electronic tokens.
- Token value is backed by full faith and credit of government.

Government Borrowing (Indian Express)

- **News context:** Government is planning to borrow Rs 5.03 lakh crore in 2nd half of current fiscal year.
 - It funds revenue gap for reviving pandemic-hit economy.
 - During 1st half, Government has raised Rs 7.02 lakh crore by issuing bonds.

Background:

- Government raises money from market.
- To fund its fiscal deficit through dated securities and treasury bills.
- Budget has pegged fiscal deficit at 6.8% for current fiscal.
- From 9.5% of the GDP projected for FY21.

Off-budget borrowings

- Off-budget borrowings are loans that are taken by other public institution.
- Borrowing on directions of center.
- Such borrowings are used to fulfil the government's expenditure needs.
- Loan is not included in the national fiscal deficit.
- This helps keep the country's fiscal deficit within acceptable limits.

ENVIRONMENT, GEOGRAPHY & MAPS

Sand and dust storms (Indian Express)

- These are meteorological hazards.
 - In arid and semi-arid regions (Northern Africa, Arabian Peninsula, Central Asia, China).
 - It is caused by thunderstorms, strong pressure gradients.
 - Associated with cyclones.

Sources of these mineral dusts:

- 40% of aerosols in troposphere are dust particles from wind erosion.
- **News context:** APDIM report Sand and Dust Storms Risk Assessment in Asia and Pacific.

APDIM:

- It is a regional institution of UNESCAP.
- It is mandated to reduce human and material losses due to natural hazards.
 - To contribute towards effective design and investment.
 - To implement of disaster risk reduction and resilience policies.

Sand and dust storms directly affect 11 of the 17 UN mandated SDGs:

- Ending poverty in all forms.
- Ending hunger, Health and well-being.
- Safe water and sanitation, Affordable and clean energy.
- Decent work and economic growth.
- Industry innovation and infrastructure.
- Sustainable cities and communities, Climate action.
- Life below water, Life on land.

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Impacts:

Positive:

- It can increase nutrient in areas of deposition and benefit vegetation.
- Dust deposition on water bodies can result in positive outcomes.
- Dust particles carries iron can enrich oceans.
 - By improving phytoplankton balance.
 - By impacting marine food webs.

Negative:

- They affect agriculture, energy, environment, aviation, human health.
- High salt content is toxic for plants.
- The deposition of dust on glaciers induces a warming effect.
 - Increase melting of ice.

Key Findings:

- Sand and dust storms contribute significantly to poor air quality.
 - Millions of people of India and world exposed.
- The risk of impacts projected to increase in 2030s.

Irrawaddy Dolphin (*Orcaellabrevirostris*) (Indian Express)

Protection Status:

- **Schedule I:** Indian Wildlife (Protection) Act, 1972.
- **IUCN Red List:** Endangered.

Habitat: Coastal areas of South and Southeast Asia.

- **3 rivers:** Irrawaddy (Myanmar), Mahakam (Indonesian Borneo), Mekong (China).
- **Songkhla Lake:** Southern Thailand.
- More than 6,000 reported from Bangladesh.

Habitat in India: Chilika Lake (Odisha, Highest single lagoon population).

- Satpada Island.
- Nalabana Island (Forest of Reeds).
- India's Ganges.



Chilika Lake:

- It is Asia's largest and world's 2nd largest lagoon.
- It is largest wintering ground for migratory birds on Indian sub-continent.
- 1st Indian wetland of international importance under the Ramsar Convention.

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Assam wetland at risk till dumping stops: activists (Indian Express)

- **News context:** Degradation of Assam's Deepor Beel due to anthropogenic activities.

Deepor Beel

- It is state's **only Ramsar site** besides **being Important Bird Area.**
 - It is part of Rani Reserve forest.
- It is one of largest and permanent freshwater lake.
- It is important place **for migratory species.**
- It is categorised as wetland type under Burma monsoon forest biogeographic region.



Concern:

- Human activities causing huge destruction.
 - Like dumping of garbage, construction of roads and railways, construction of warehouses, tourism activities.
 - Led to death of elephants in railway accidents.
 - Reduction in number of fishes.

Raptor Species (Indian Express)

- **News context:** Around 160 species of birds of prey are endangered.
 - Around 30% of raptor species around world are threatened by extinction.
 - An analysis by IUCN and Birdlife International.

Raptor species:

- It is bird of prey.
- It is carnivore (meat eater) that kills and eats mammals, reptiles, amphibians, insects etc.
- It has hooked beak, strong feet with sharp talons and keen eyesight.

Threats to Birds of Prey

- The threats to them are result of:
 - The habitat loss, pollution, toxic substances, human-wildlife conflicts, collisions with aerial structures and electrocution by power lines and climate change.
- Largest variety of eagles in world (Philippine eagles) decreased due to extensive deforestation.
- Over 95% decline in Asian countries (India).
 - Due to widespread use of Diclofenac (anti-inflammatory drug).

Winged visitors arrive in Pulicat (The Hindu)

- **News context:** Increase in numbers of migratory birds in Pulicat Lake.

More on this news:

- This ositive development is due to increase in storage levels in the reservoir in adjoining areas (Nelapattu bird sanctuary).

Pulicat Lake:

- It is 2nd largest brackish water lake.
- It is located on border of Andhra Pradesh and Tamil Nadu.
- Birds like grey pelicans, painted storks, visit site annually.
 - Both are near-threatened species under IUCN.
- The barrier island of Sriharikota separates lake from the Bay of Bengal.
- **2 rivers which feed lagoon are:**
 - Arani (southern tip)
 - Kalangi (northwest)
 - Buckingham Canal, a navigation channel (western side).
- It receives rainfall from both South-West and North-East monsoon winds.



Nelapattu bird sanctuary:

- One of biggest habitats for pelicans and other birds.
 - Located near **Pulicat Lake**.
- Flamingo Festival is held every year to promote tourism in **Pulicat and Nelapattu**.

IUCN Red List of Threatened Species (Down to Earth)

- **Key facts:** Some 902 species officially extinct.
 - 30% of species face threat of extinction.
 - Some 80 species are extinct in wild.
 - 8,404 are critically endangered.
 - 14,647 are endangered, 15,492 are vulnerable, 8,127 are near threatened.
 - Some 71,148 species are of least concern.
 - 19,404 are data deficient.
- **IUCN Red List of Threatened Species:**
 - It is comprehensive inventory of global conservation status of plant and animal species.

Recent Species IUCN status:

- **Atlantic bluefin tuna (Thunnus thynnus):**
 - Endangered to least concern.
- **Southern bluefin tuna (Thunnus maccoyii):**
 - Critically endangered to endangered.
- **Komodo dragon (Varanus komodoensis):** World largest living lizard.
 - Vulnerable to endangered.

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Impact of fossil fuel extraction on global warming (Indian Express)

- **News context:** Global fossil fuel extraction needs to go down to keep global warming to below 1.5°C.
 - I.e. target set by 2015 Paris Climate Agreement.

Findings of the report

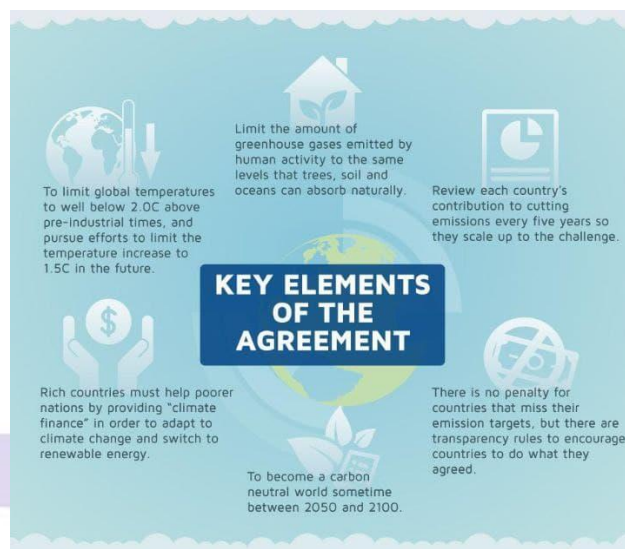
- **Global oil and gas production** should **decline by 3% per year** until 2050 to reach 2015 Paris Climate Agreement target.
- Presently, both planned & operational fossil fuel extraction projects are not conducive to meeting the targets set.

Reasons behind the need to limit the use of fossil fuels

- Global cost of air pollution from fossil fuels is high.
 - Around **3.3%** of the **world's GDP**.
- **India** is estimated to bear a **cost of \$150 billion** from air pollution caused by fossil fuels.

Goal set out by the Paris Climate Agreement (2015, Signed by 195 countries)

- It aims to hold the increase in the global average temperature to **well below 2 degrees** above pre-industrial levels.
 - To pursue efforts to limit the temperature **increase to 1.5 degrees** above pre-industrial levels.



Impact of climate change on El Niño-Southern Oscillation (Indian Express)

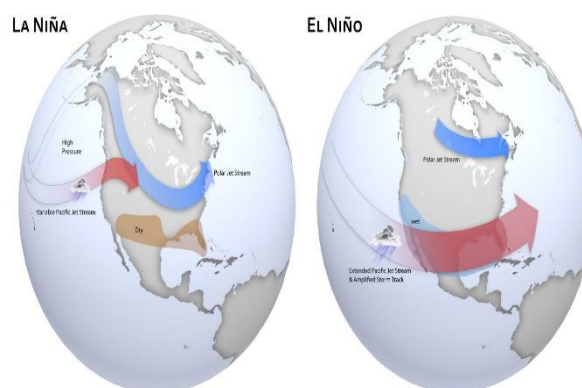
- **News Context:** Climate change can cause extreme and more frequent El Niño and La Niña.
- Increasing CO2 can cause a weakening of future simulated ENSO sea surface temperature variability.
- Future El Niño events will lose heat to atmosphere more quickly due to the evaporation of water vapour.
- Weakening of tropical instability waves in projected future, which can cause a disruption of La Niña event.

El Niño and La Niña:

- They are 2 natural climate phenomena occurring across tropical Pacific Ocean.
- El Niño warms or increases sea surface temperatures in central and eastern tropical Pacific Ocean.
- La Niña causes water in Eastern Pacific Ocean to be colder than usual.
- Together, they are called ENSO or El Niño-Southern Oscillation.

Causes of El Nino

- It sets in when there is an anomaly in pattern.
- Westward-blowing trade winds weaken along



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Equator.

- Due to changes in air pressure, surface water moves eastwards to coast of Northern South America.
- Central and Eastern Pacific regions warm up for over 6 months and result in an El Nino condition.

Subansiri Hydroelectric Project (LSHP) (The Hindu)

- It is an under-construction **gravity dam** on **Subansiri river** along the border of Assam and Arunachal Pradesh.
- **Subansiri River (gold river):**
 - **Origin: Tibet Plateau**
 - Enters India through **Miri hills** (Arunachal Pradesh).
 - Largest tributary of Brahmaputra River.
- Project is being developed by **National Hydro Power Corporation (NHPC)**.
- **Controversy vis-à-vis project:** Dam is located in a **seismic zone** and it is under-designed to resist earthquakes.



Groundswell report on climate change (The Hindu)

- It was released by **World Bank**.
- It examined how the **impacts of slow-onset climate change** could lead to millions of what it describes as **"climate migrants" by 2050**.
- Hotspots of internal climate migration could emerge **as early as 2030** and continue to spread and intensify **by 2050**.

Hydrogen Fuel (PIB)

- **Hydrogen:** It is **lightest and 1st element** on periodic table.
 - Since weight of H₂ is less than air.
 - It rises in atmosphere and is therefore **rarely found in its pure form, H₂**.
 - H₂ is a non-toxic, non-metallic, odorless, tasteless, colorless, and highly combustible diatomic gas.
 - Molecular hydrogen is **not available on Earth in convenient natural reservoirs**.
 - Most hydrogen on Earth is **bonded to oxygen in water** and to carbon in live or dead and/or fossilized biomass.
 - It can be created by **splitting water into H₂ and O₂**.
- **Water is only by-product** that results from usage of H₂ fuel that makes the fuel 100% clean.

Government Initiatives towards h2 fuel

- **Budget 2020-21** formally announced the **National Hydrogen Mission**.
 - It aims for generation of hydrogen from green power resources.
- MNRE has also disclosed that the **draft regulations for NHM** will be finalized soon.

Challenges

- **Economic sustainability** of extracting green or blue hydrogen
- Technology used in production and use of hydrogen are **at nascent stage and are expensive**.

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- **Maintenance costs** for fuel cells post-completion of a plant.
- **Commercial usage** of hydrogen requires **mammoth investment in R&D**.

Green Hydrogen (PIB)

- Hydrogen when produced by **electrolysis** using renewable energy is known as Green Hydrogen.
 - It has **no carbon footprint**.
- **Significance:** Green hydrogen energy is **vital for India** to meet its **Nationally Determined Contribution (INDC) targets**.
 - It will ensure **regional and national energy security**, access and availability.
 - It acts as an **energy storage option**, which would be essential to meet intermittencies in the future.
- **News context:** Indian government has urged US companies to participate in bids for green hydrogen and electrolyzers.

Challenges:

- Path for green hydrogen in the country **is not clear**.
 - Production of **green hydrogen is slightly more expensive than grey hydrogen**.

Green Bonds (PIB)

Green Bond

- It is a type of **fixed-income instrument** that is specifically earmarked to raise money for **climate and environmental projects**.
- These bonds are typically **asset-linked** and backed by the **issuing entity's balance sheet**, so they usually **carry same credit rating** as their issuers' other debt obligations.
- These may come with **tax incentives** to enhance their attractiveness to investors.
- World Bank is a **major issuer of green bonds**.
 - It has issued 164 such bonds since 2008, worth a combined \$14.4 billion.
 - In 2020, the total issuance was worth almost \$270 billion.
- **News context:** Power Finance Corporation Ltd (PFC) has successfully issued its 1st ever Euro Green Bonds.

Key Details of the News

- It is 1st **ever Euro denominated Green bond** issuance from India.
- Moreover, it is 1st **ever Euro issuance by an Indian NBFC**.
- It is 1st **Euro bond issuance** from India since 2017.

Working of a Green Bond

- These bonds work just like any other **corporate or government bond**.
- Borrowers issue these securities in order to **secure financing for projects** that will have a positive environmental impact.
 - E.g.: **ecosystem restoration or reducing pollution**.
- Investors who purchase these bonds can expect to make as the bond matures.
- In addition, there are **often tax benefits** also.

Green Bonds and Blue Bonds

- Blue bonds are **sustainability bonds** to finance projects that **protect the ocean and related ecosystems**.
- **All blue bonds are green bonds**, but not all green bonds are blue bonds.

Green Bonds Vs Climate Bonds

- "Green bonds" and "climate bonds" are sometimes **used interchangeably**.
 - But some authorities use the latter term specifically for projects **focusing on reducing carbon emissions** or alleviating effects of climate change.

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Shoonya Campaign (PIB)

- **News context:** Shoonya Campaign was launched by:
 - NITI Aayog, Rocky Mountain Institute (RMI).
 - RMI India.
- RMI is an independent non-profit organization founded in 1982.

Shoonya Campaign:

- It is an initiative to **promote zero-pollution delivery vehicles** by working with consumers and industry.
- It will promote **adoption of electric vehicles (EVs) in urban deliveries segment**.
 - It will also create **consumer awareness** about the health, environmental and economic benefits of electric vehicles.

Government's Initiatives to give a boost EV Sector in India

- Under **National Electric Mobility Mission Plan 2020**:
 - Government to see **6 million electric and hybrid vehicles** on the roads **by 2020**.
- **Faster Adoption and Manufacturing of Electric Vehicles in India (FAME India Scheme)** for improving electric mobility in India.
- **Implementation of smart cities** would also boost growth of electric vehicles.

Humboldt penguins (The Hindu)

- These belong to a genus that is commonly known as '**banded**' group.
- These are a **medium-sized species** among at least 17 species.
- These are endemic to **Pacific coasts of Chile and Peru**.
- They are so named because their habitat is located **near Humboldt Current**.
- **IUCN Red List Status:** Vulnerable
- They have an average height of just over 2 ft.
 - Emperor penguin is **largest** and stands at over **4 ft tall**.
- **News context:** Mumbai's Byculla Zoo announced addition of 2 new Humboldt penguin chicks this year.



Sea cucumber (The Hindu)

- Protection Status:
 - IUCN Red List: Endangered species.
 - Schedule I: **Wildlife Protection Act, 1972**.
- Marine invertebrates that live on the seafloor.
- **Habitat:** Tropics.
- Supports **coral reefs**.
- Act like garbage collectors of the ocean world
 - Recycle nutrients



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Sea Snot Outbreak in Turkey (The Hindu)

- **News context:** Sea snot is nowhere seen on the surface nowadays, earlier visible near Sea of Marmara.

Effects

- 60% species disappeared.
- Layers have sunk and decompose, Consumes oxygen.
- New marine mucilage.
- Spreading slime:
 - **Black Sea, Aegean Sea**

Background

- Sea of Marmara (connects Black Sea to Aegean Sea).
- Largest outbreak of sea snot.

SEA SNOT:

- Slimy layer of sludge.
- Damage to marine ecosystem.
- Algae overloaded with nutrients.
- 1st seen in 2007, Black sea
 - Later in Aegean Sea.

Impacts & concerns

- Blanketed harbours and shorelines.
- Threat to marine ecosystem.



WHO Global Air Pollution Standards (The Hindu)

- WHO, in its first-ever update since 2005, has tightened global air pollution standards.
- Recognizing the impact of air pollution on health is much more serious than earlier envisaged.

Latest Standards

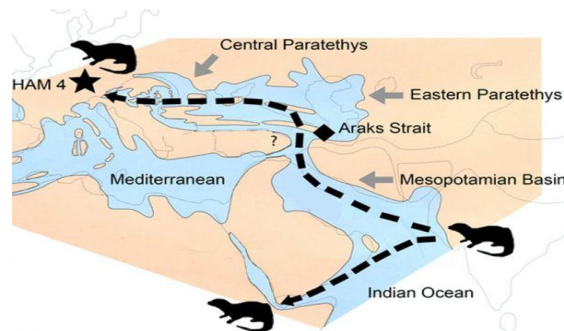
- Upper limit of annual PM2.5 as per the 2005 standards
 - revised to five microgram per cubic meter.
 - 24-hour ceiling now dropped to 15.
- **Upper limit of PM10**
 - revised to 15
 - 24-hour value has been revised from 50 to 45 microgram.

Vishnuonyx (The Hindu)

- **News context:** Universities of Tübingen and Zaragoza researchers have discovered:
 - fossil of a previously unknown species,
 - named Vishnuonyx neptuni, meaning 'Neptune's Vishnu'.
 - First discovery of any member of the Vishnuonyx genus in Europe

About

- Between 12.5 million and 14 million years ago exists.



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- Members of a genus of otters.
- Lived in the major rivers of southern Asia.
- Fossils of these now extinct.
- First discovered in sediments found in the foothills of the Himalayas.
- Newly found fossil indicates it had travelled as far as Germany.

IMO on Black Carbon Emissions (The Hindu)

- **News context:** Arctic summer ice reaching its 12th lowest ever extent.
 - Clean Arctic Alliance has called for urgent cuts to black carbon emissions from shipping.
 - Ahead of 77th Marine Environment Protection Committee (MEPC) meeting (MEPC 77) at the International Maritime Organization (IMO) in November.

Marine Environment Protection Committee (MEPC)

- To ensure that:
 - A proactive stance is taken to protect and safeguard the interests of the marine environment and ecosystem.
- IMO has established the Marine Environment Protection Committee (MEPC).
- Committee seeks to provide
 - a solution for the problem of air pollution.
 - required revisions to the existing MARPOL stipulations and guidelines.
- Creation and enforcement of PSSAs (Particularly Sensitive Sea Areas).
- Other special oceanic zones looked into by environment protection organization.

Black Carbon & its concerns

- It results from the incomplete combustion of fossil fuels and biomass.
- It is produced both naturally and by human activities.
- **Primary sources include emissions from:**
 - diesel engines, cook stoves.
 - wood burning, forest fires.
- A short-lived pollutant that is the second-largest contributor to warming the planet behind CO₂.

Beach Environment & Aesthetics Management Services (BEAMS) (The Hindu)

- It is an initiative under 'Integrated coastal zone management' (ICZM) approach.
- It aims to sustainable development of Indian coastal regions.
- **Objective of ICZM approach is to:**
 - Protect and conserve the pristine coastal and marine ecosystems.
 - Holistic management of resources.
- **News context:** Environment Ministry launched it for Sustainable Development Indian coastal regions.

National Disaster Management Authority, 2006 (The Hindu)

- It is **apex statutory body** for Disaster Management.
- It was constituted under **Disaster Management Act, 2005**.
- It is mandated to lay down policies, plans, guidelines for Disaster Management.
- **NDMA:** Headed by **Prime Minister**.
- **State Disaster Management Authorities (SDMAs):**
 - Headed by respective Chief Ministers.
- It implements a holistic and integrated approach to Disaster Management.
- **News context:** 17th Foundation Day of NDMA was celebrated on 28th September.

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General Sherman tree (Location: California) (The Hindu)

- **News context:** This tree is threatened by California wildfires.
- The tree is the **world's largest** in terms of volume and exists in the **Giant Forest sequoia grove** of national park.
- As per recent estimates, General Sherman is about 2,200 years old.



Sundarbans threatened by human activities (Indian Express)

Indian Sundarbans:

- It includes **Sunderban Tiger Reserve** which is home to **royal Bengal tigers**.
- It is a **world heritage site and Ramsar site**.
- **It is home to:**
 - Northern river terrapin (CR), Irrawaddy dolphin (EN)
 - Fishing cat (VU)
 - 2 of world's 4 horseshoe crab species
 - 8 of India's 12 species of kingfisher
- **News context:** Continuous loss of biodiversity is observed across the shorelines of Indian Sundarbans.

Challenges

- Mangroves are being lost gradually and quietly.
- Loss of biodiversity
- Created fragmented and fragile habitats for rare taxa.

Solution

- Tackling **polluted discharges from shrimp ponds**.
 - Instead of popularizing shrimp farming, more indigenous fishing activities must be encouraged.

Cyclone Gulab (The Hindu)

- **News context:** Cyclone 'Gulab' was formed in the Bay of Bengal Region.
 - **Pakistan** has suggested this name.

Formation of cyclones:

- Cyclones are formed over the **oceanic water in the tropical region**.
- Due to **warming of land and water surface**, the **warm moist air** over the ocean rises upwards.
 - Following this **cool air rushes in to fill the void**.
 - They too get warm and rise and the cycle continues.

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What creates the spin?

- **Earth's rotation** on its axis causes **deflection of the wind**.
- Wind coming from the **Arctic is deflected to the right**.
 - While Antarctic wind deflects to the left side.
- When wind reaches warmer place, **cool air starts getting attracted** to the centre to fill gap.
- While moving to the centre, cool air keeps getting deflected resulting in circulation of wind movement.
- This process continues until the **cyclone hits the land**.

SCIENCE & TECHNOLOGY

NASA's Perseverance rover (The Hindu)

- **News context:** NASA's Perseverance rover has successfully collected its first rock sample for return to Earth.
 - Perseverance arrived in February 2021 at **Mars' Jezero Crater**.
 - It is the site on an ancient lake.

Why is this mission significant?

- It carried a unique instrument, **MOXIE or Mars Oxygen ISRU Experiment**.
- It, for the first time, manufactured **molecular oxygen on Mars** using CO₂ from the carbon-dioxide-rich atmosphere.
 - **ISRU (In Situ Resource Utilization):** Use of local resources to meet human needs or requirements of the spacecraft.
- It carried **Ingenuity**, the first ever helicopter to fly on Mars.
- It is the planned first step to bring back rock samples from Mars for analysis in sophisticated laboratories on Earth.
 - With the goal of looking for **bio-signatures** or signatures of present or past life.

Objectives:

- Look for signs of ancient microbial life.
- Collect Martian rock and dust samples for later return to Earth.
- Deliver an experimental helicopter.
- Study the climate and geology of Mars.
- Demonstrate technology for future Mars missions.

Nipah Virus (The Hindu)

- It is a **zoonotic virus**.
 - It is **transmitted from animals to humans and** Person to person.
- It was 1st found in **Malaysia and Singapore** in 1998 and 1999.
- It was 1st appeared in domestic pigs.
 - Found among several species of domestic animal dogs, cats, goats, horses, sheep.
- Fruit bats are natural reservoir of virus.

Symptoms:

- Acute encephalitis, Respiratory illnesses.

Prevention:

- **Current situation:**
 - There are no vaccines for both.
 - Intensive supportive care is given to humans infected.

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Measures:

- Avoid contact with sick bats or pigs.
- Avoid areas where bats are known to roost.
- Avoid consumption of fruits that may be contaminated by bats.
- Avoid consumption of raw date palm sap.
- **News context:** A case of the zoonotic Nipah has been reported in Kozhikode district of Kerala.

Mu variant of coronavirus (The Hindu)

- **News context:** WHO has classified another SARS-CoV-2 variant B.1.621 as a variant of interest (VOI) and has called it Mu variant.
 - 4 other variants of interest are Eta, Iota, Kappa, Lambda.
 - Mu variant was 1st found in Colombia in January 2021, and has been found in about 39 countries so far.
 - There have been reported cases from countries in South America and in Europe.

Variant of interest (VOI)

- Its classification is based on factors such as **genetic changes** that affect virus characteristics such as:
 - Transmissibility
 - Disease severity
 - Immune escape etc.
- A VOI **represents a lower level of concern** than a variant of concern (VOC) such as Alpha, Beta, and Gamma.
- Variant of concern are associated with factors such as an **increase in transmissibility** or detrimental change in epidemiology, etc.

How do variants of a virus emerge and why?

- Variants of a virus have **one or more mutations** that differentiate it from the other variants that are in circulation.
- Essentially, the goal of the virus is to reach a stage where it can cohabitate with humans.
 - As it **needs a host to survive**.
- Errors in the viral RNA are called mutations and viruses with these mutations are called variants.
- Variants could differ by a single or many mutations.

Mutation:

- A mutation means a change in the genetic sequence of the virus.
- In the case of SARS-CoV-2, which is a Ribonucleic acid (RNA) virus, a mutation means a change in the sequence in which its molecules are arranged.
- A mutation in an RNA virus often happens when the virus makes a mistake while it is making copies of itself.

Prophylactic Medicines (PIB)

- It means a **preventive measure**.
- It is a **medication to prevent a disease from occurring**.
 - **Eg:** Prophylactic antibiotics may be used after a bout of rheumatic fever to prevent the subsequent development of Sydenham's chorea.
- **Ayush Prophylactic Medicines:**
 - It is a kit of **Ayurveda prophylactic medicines for Covid-19**.
 - It contains SanshamaniVati (Guduchi or GiloyGhanVati), Ashwagandha GhanVati.

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Inspiration4 (Indian Express)

- It is SpaceX's **1st all-civilian space mission**.
- It involves circling the Earth for 3 days, then splashing in Atlantic Ocean.
- It will orbit Earth at 575km.
- Higher than International Space Station (408km) and Hubble space telescope (547km).
 - The Crew Dragon spacecraft is set to be launched from NASA's Kennedy Space Centre in Florida in the US.

India's coronavirus genome sequencing system (The Hindu)

- **News context:** Novel Coronavirus Sequencing and analysis has declined sharply in India.

More in News:

- While announcing INSACOG, the central government aimed to analyse 5 per cent of all positive samples.
- This method is known as 'randomised surveillance'.

Genome sequencing:

- A genome is an organism's complete set of DNA including all of its genes.
- It involves sequencing and analysis of genomes through uses of high DNA sequencing.

Purpose of sequencing:

- The main purpose of sequencing is surveillance.
- It helps to get the true picture of prevailing variants, emerging variants (like delta).
- There are 4 'Variants of concern' (VoCs):
 - Alpha (emerged in the UK)
 - Beta (emerged in Brazil)
 - Gamma (emerged in South Africa)
 - Delta (emerged in India)

GISAID: (2008)

- It is a public platform started by the WHO.
- It provides open-access to genomic data of influenza viruses.

INSACOG:

- It is joint initiative of Union Ministry of Health and Family Welfare, DBT with CSIR and ICMR.
- It is a consortium of 28 National Laboratories:
 - to monitor the genomic variations in the SARS-CoV-2.
- It carries out whole genome sequencing of SARS-CoV-2 virus across the nation.
- Aim to focus on sequencing of clinical samples.

IndiGen: (April 2019)

- Initiated by **CSIR**.
- It aims to undertake whole genome sequencing of thousands of individuals.
 - To enable **genetic epidemiology**.
 - To develop **public health technologies** applications using population genome data.

Findings of Chandrayaan-2 (Indian Express)

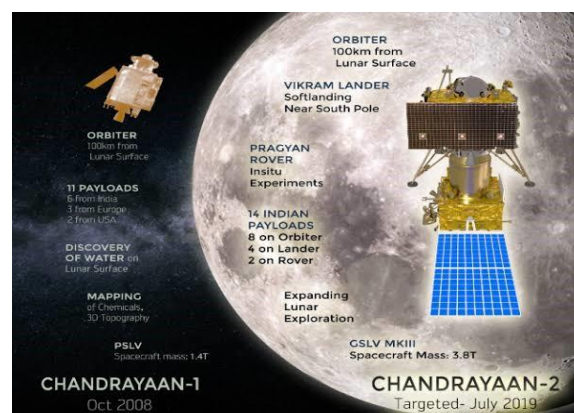
- Chandrayaan-2, India's 2nd mission to Moon, had failed to make a soft-landing on the lunar surface.

Latest Information by Chandrayaan-2

- Presence of **water molecules** on moon.
- Presence of **Minor elements**.
 - It can help in understanding **magmatic evolution** on the Moon.
- Information about **solar flares**

Chandrayaan-2 Mission (2019)

- It was lost after its landing on the dark side of the Moon.
 - But, it remained active in the form of its orbiter hovering over the Moon.
- Objective:** To demonstrate the **ability to soft-land on the lunar surface** and operate a robotic rover on the surface.
- The mission consisted of:**
 - Orbiter: Vikram (after Vikram Sarabhai)**
 - Lander**
 - Rover: Pragya**



Saline Gargle RT-PCR technology (The Hindu)

- News context:** NEERI has transferred know-how of indigenously developed Saline Gargle RT-PCR technique to Ministry of MSME.
 - National Environmental Engineering Research Institute (NEERI) is an institute under the **Council for Scientific and Industrial Research (CSIR)**.

About the Technology:

- It also provides **instant test results** and is well-suited for rural and tribal areas, given minimal infrastructure requirements and **cost-effectiveness**.
- It uses a simple collection tube filled with **saline solution**.
- The patient has to **gargle the solution** and rinse it in the tube.
- An RNA template** is produced when this solution is heated and then processed for RT-PCR.

CRISPR to control growth of mosquitoes (Indian Express)

- News context:** Researchers from California have developed CRISPR-based system to restrain mosquito vectors via sterilization.

Working of pgSIT or new precision-guided sterile insect technique

- pgSIT is a new **scalable genetic control system** that uses a CRISPR-based approach to engineer **deployable mosquitoes** that can suppress populations.
- It alters genes linked to **male fertility**, **creating sterile offspring** and female flight in **Aedes aegypti**.
 - Aedes aegypti** mosquito species is responsible for spreading wide-ranging diseases including **dengue fever, chikungunya, and Zika**.

CRISPR technology (gene-editing technology)

- The technology behaves like a **cut-and-paste mechanism** on DNA strands that contain genetic information.

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- The **specific location** of the genetic codes that need to be changed, or "edited", is identified on the DNA strand.
 - Then, using the **Cas9 protein** that location is cut off from the strand.
 - **Cas9 protein** acts like a pair of **scissors**
- A DNA strand, when broken, has a natural tendency to repair itself.

Gaganyaan (PIB)

- **News context:** Australia will support India's 'Gaganyaan' mission by tracking it through Cocos Keeling Island.

Key Details of the news

- There are **blind spots** due to which there is a possibility of not receiving signals.
- The data relay satellite tracking from **Cocos Keeling Island** is expected to help address the issue.
 - A data relay satellite serves as a way to pass along the satellite's information.

About Gaganyaan programme (Announced: August 15, 2018)

- Initial target was to launch it before the 75th anniversary of India's independence **on August 15, 2022**.
- **Aim:** To demonstrate the capability to **send humans to low earth orbit** on board an Indian launch vehicle and bring them back to earth safely.
- **Four Indian astronaut-candidates** have already undergone generic space flight training in Russia.
- ISRO's **GSLV Mk III** has been identified for the mission.

Relevance of Gaganyaan for India

- It will give **boost to industries**.
- It would create **employment opportunities**.
- India could potentially become the **4th country** to launch a human space mission.

Edible plants into vaccines (Indian Express)

- It is backed by a grant from the **US National Science Foundation**.
- It has 3 goals:
 - Showing that **DNA containing the mRNA vaccines** can be successfully delivered into the part of plant cells where it will replicate.
 - Demonstrating the plants can **produce enough mRNA** to rival a traditional shot.
 - Determining the **right dosage**.
- If this new project is successful, plant-based mRNA vaccines which can be eaten could overcome this challenge with the ability to be stored at room temperature.
- **News context:** Scientists attempt to turn edible plants like lettuce into mRNA vaccine factories under the edible vaccine project.

What makes it possible in plants?

- The key to making this work is **chloroplasts**.
 - These are tiny, solar-powered factories that **produce sugar and other molecules** which allow the plant to grow.

About the technology

- Messenger RNA or mRNA technology works by **teaching our cells to recognize and protect us** against infectious diseases.
- **Challenge:** It must be **kept cold to maintain stability** during transport and storage.

mRNA vaccines

- These vaccines trick the body into producing some of the **viral proteins itself**.
- They work by using **mRNA**, which is the molecule that essentially puts DNA instructions into action.

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- **Inside a cell, mRNA is used as a template** to build a protein.

Significance:

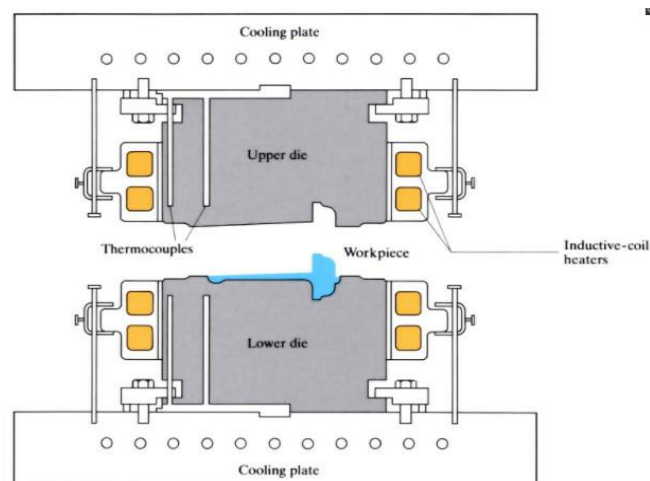
- **Classical vaccine molecules** usually only work with the **acquired immune system** and the **innate immune system** is activated by another ingredient, called an **adjuvant**.
 - **Innate immune system:** Defences we're born with
 - **Acquired immune system:** Which we develop as we come into contact with pathogens
- Interestingly, **mRNA** in vaccines could also trigger the **innate immune system**, providing an **extra layer of defence** without the need to add adjuvants.

Isothermal Forging Technology (PIB)

- **News context:** DRDO has developed Critical near Isothermal Forging Technology for aeroengines.

Isothermal Forging:

- It is a **closed-die process** in which the **dies and the workpieces** are heated to the same temperature.
 - So that forming can take place without loss of temperature in the workpiece.
- It is a preferred process for **forming engineered parts, including jet-engine and other aerospace components** in high-density lightweight alloys.
- **Significance:** It is a crucial technology for establishing **self-reliance in aero-engine technology**.



Parker Solar Probe (Times of India)

- **News context:** Scientists using data from NASA's Parker Solar Probe have assembled a comprehensive picture of the zodiacal cloud.

Zodiacal clouds/interplanetary dust particles (IDPs)

- Its sources include:
 - Asteroid collisions.
 - Cometary activity and collisions in the inner Solar System
 - Kuiper belt collisions, Interstellar medium grains.
- It **scatters sunlight** in a way that can be seen with the naked eye, but only on very dark, clear nights.
- It is **thickest near the sun** and thinnest near the edges of the solar system.
- It looks smooth to the naked eye, but infrared wavelengths reveal bright streaks and ribbons.
 - That can be traced back to their sources: **comets and asteroids**.

NASA's Parker Solar Probe:

- It will revolutionize our understanding of the sun.
 - Where changing conditions can propagate out into solar system, affecting Earth and other worlds.
- It will travel through the sun's atmosphere, **closer to surface than any spacecraft before it**.
 - Therefore, it will provide humanity with **closest-ever observations of a star**.

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Havana Syndrome (The Hindu)

- It is a set of mental health symptoms.
- It involves symptoms such as:
 - Hearing certain sounds without any noise being present.
 - Nausea, Vertigo, Headaches, Memory loss, Balance issues.
- **News context:** US intelligence officer has reported symptoms of Havana Syndrome, who was in India earlier this month.
- 1st instance of reporting in India.

MEDICAL SYMPTOMS RESULT OF ESPIONAGE WARS?

WHAT IS HAVANA SYNDROME?

Havana syndrome is a set of medical signs and symptoms first reported in late 2016 by American and Canadian embassy staff in Havana, Cuba, and subsequently in other countries including the US, Austria, Germany, and now India



WHAT DO US INTEL AGENCIES SAY?

The US intel services have not reached a consensus on a formal determination of the cause of the Havana syndrome though unnamed sources in intelligence and in two presidential administrations have expressed suspicions to the press that Russian military intelligence is responsible

WHEN WAS IT FIRST DETECTED?

> In 2016, a number of Canadians and Americans living in Havana complained of **concussion-like symptoms, including headaches, dizziness, nausea and difficulty in concentrating.** Some described hearing buzzing or high-pitched sounds before falling sick

> In 2018, US diplomats in China reported problems similar to those reported



in Cuba, as did undercover CIA agents working in other countries with partner agencies on missions aimed at countering Russian covert operations

> Last month, US vice-president Kamala Harris was delayed for three hours as she was about to fly to Hanoi, Vietnam, after a US official in Vietnam reported Havana syndrome symptoms

Source: National Academy of Sciences & media reports

WHAT DO EXPERTS SAY?

While there is no expert consensus on the exact cause, the National Academies of Sciences, Engineering, and Medicine expert committee concluded in December 2020 that microwave energy (especially directed radio frequency energy) 'appears to be the most plausible mechanism in explaining these cases among those that the committee considered' but that 'each possible cause remains speculative'. The Biden admin has started calling them 'unexplained health incidents (UHIs)'

Monoclonal Antibody Treatment (The Hindu)

- It is artificially created antibodies that aim to:
 - Body's natural immune system.
- They target a specific antigen:
 - A protein from the pathogen that induces immune response.
- **News context:**
 - European Commission signs contract for the supply of a monoclonal antibody treatment.
 - 18 Member States signed up to the joint procurement application.

Chang'e-5 Probe (The Hindu)

- **News context:** Early-stage findings of Chang'e-5 probe were recently presented by China.

Background

- Chinese spacecraft carrying rocks and soil from the moon.
- Begun its journey back to Earth in December 2020.
- China is going to become the first country to successfully retrieve lunar samples since the 1970s.

Where was it landed?

- Located on the western edge of the nearside of the Moon in the Northern Oceanus Procellarum.
- A youngest geological area of Moon.
- Age roughly two billion years.
- Materials scraped from the surface comprise:

Chang'e-5 probe: Journey to the moon

Engineering goals

1. Make breakthroughs in key lunar sampling tech.
2. Retrieve lunar samples.
3. Improve lunar exploration system for future missions.

Scientific objectives

1. Topography detection and geological background exploration
2. Long-term, systematic lab studies of lunar samples to learn of moon origins and evolution.

Multiple challenges

1. Gravity on the moon is 1/6 that of Earth, prompting demand in sampling and encapsulation technologies.
2. The ascender will take off from the lander instead of the lunar surface, making heat dissipation and control during the ascent process difficult.
3. The returner will accelerate to 11.2 km/s when returning to Earth, requiring special route and material design to keep samples intact.

CGTN

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- loose soil
- Powder of lunar rocks

Latest Findings

- 90% of materials collected by Chang'e-5 likely derive from landing site
- These termed as mare basalts.
- Volcanic rocks are visible to us as darker gray areas.
- 10 % of fragments have distinctly different.
- Exotic chemical compositions, and may preserve records of other parts of the lunar surface.
- Potential sources of beads of rapidly cooled glassy material.
 - These glassy droplets now extinct volcanic vents known as 'Rima Mairan' and 'Rima Sharp'.
 - Located roughly 230 and 160 kilometers southeast and northeast of the Chang'e-5 landing site.

What next?

- Successful landing in Inner Mongolia made China only the third country to have retrieved lunar samples
 - After US and Soviet Union.
- Plan was to collect 2 kg (4.4 lbs) of samples.

About Chang'e-5 Probe

- Unmanned spacecraft by China.
- Named after the mythical Chinese moon goddess.
- Rocket comprises 4 parts:
 - Orbiter, Returner, Ascender, Lander.
- Mission is expected to realize 4 "firsts" in China's space history.
- First time for a probe to take off from surface of Moon.
- 1st time to automatically sample the lunar surface.
- 1st time to conduct unmanned rendezvous and docking in lunar orbit.
- 1st time to return to Earth with lunar soil samples in escape velocity.

Dark Energy (The Hindu)

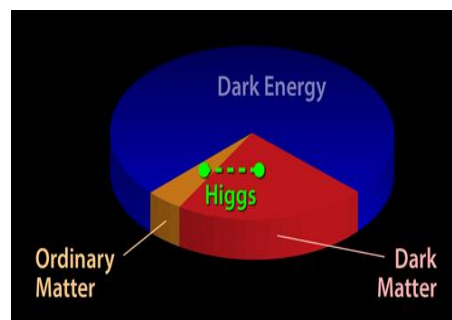
- **News context:** An international team of researchers made the first direct detection of dark energy.
 - Certain unexpected results in the XENON1T experiment were notices and that may be due to dark energy.

What is Dark Energy?

- It's a complete mystery.
- It makes up about **68% of universe.**
- It is a hypothetical form of energy that exerts:
 - a negative, repulsive pressure, behaving like the **opposite of gravity.**
- It causes rate of expansion of our universe to accelerate over time.
- One might expect from a universe that began in a **Big Bang.**

Dark Energy vs Dark Matter

- Planets, moons, massive galaxies – makes up less than 5% of universe.
- About 27% is dark matter and 68% is dark energy.
- Dark matter attracts and holds galaxies together.
- Dark energy repels and causes the expansion of our universe.
- Existence of dark matter was suggested as early as the 1920s.
- Dark energy wasn't discovered until 1998.



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XENON1T Experiment

- World's most sensitive dark matter experiment.
- Operated deep underground at the INFN Laboratori Nazionali del Gran Sasso in Italy.
- Use dual-phase (liquid/gas) xenon technique.
- Located underground at the Laboratory Nazionali del Gran Sasso of INFN, Italy.

T.N. announces parks for future mobility, apparels (The Hindu)

- **News context:** An integrated apparel park and a future mobility park was announced to be setup in Tamil Nadu.

Future Mobility Park:

- It will make use of the advances in:
 - Data science, Artificial intelligence.
 - Sensing technology.
 - To provide cleaner transport, automation, new business models and new modes of sustainable travel.
- It is established in UK, Detroit etc.

VIPER Mission (The Hindu)

- **News context:** NASA has chosen a landing site for Volatiles Investigating Polar Exploration Rover (VIPER).
 - It is on the western edge of Nobile crater, near the lunar south pole.

Background

- NASA, in July 2021, announced about its launching (in 2023).
- It aims to understand possibility of human life by using locally available resources.

About the Mission

- VIPER is a mobile robot.
- First resource mapping mission on any other celestial body.
- NASA's Commercial Lunar Payload Services (CLPS) will provide:
 - launch vehicle, lander.
- For this 100-day mission.

Objectives

- To explore Moon's South Pole region.
- Help in creating lunar resource maps.
- Evaluate the concentration of water.
- Potential resources on its surface.

5G technology (Business Standard)

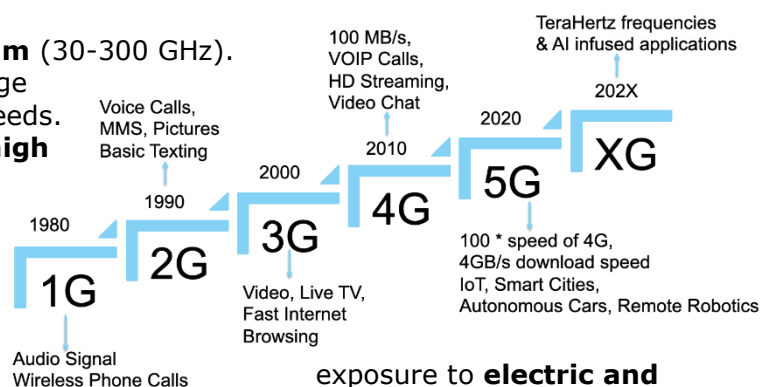
- It is next generation of mobile broadband.
- **Significance: India's National Digital Communications Policy 2018** highlights importance of 5G.

Features and benefits

- Operation in **millimeter wave spectrum** (30-300 GHz).
 - Having advantage of sending large amounts of data at very high speeds.
- Operate in 3 bands i.e. **low, mid and high** frequency spectrum.
- Reduced **latency**.
- Increased capacity can minimize the impact of load spikes.

International Electromagnetic Fields (EMF) Project (1996): By WHO

- It investigates **health impact** of **magnetic fields** in the frequency exposure to **electric and**
- It advises national authorities on **EMF radiation protection**. range 0-300 GHz.



Fortified Rice Kernels (FRK) (Indian Express)

Food Fortification:

- **Adding vitamins and minerals** to commonly consumed foods during processing to increase their **nutritional value**.

Benefits:

- A safe method of improving nutrition among people.
 - It does **not pose a health risk** to people.
- It does **not require** any changes in **food habits and patterns**.
- It is a **socio-culturally acceptable way** to deliver nutrients to people.
- It does **not alter characteristics of food**.
 - Eg. Taste, Feel, Look.
- This method is **cost-effective**.
- **News context:** Food Ministry 1st time issued uniform specifications for FRK for grade A & Common Rice.

Need for Rice fortification

- India has **high levels of malnutrition**.
 - Every 2nd woman in the country is **anaemic**.
 - Every 3rd child is stunted.
- India is in '**serious hunger**' category on Global Hunger Index (GHI) (Rank: 94/107).

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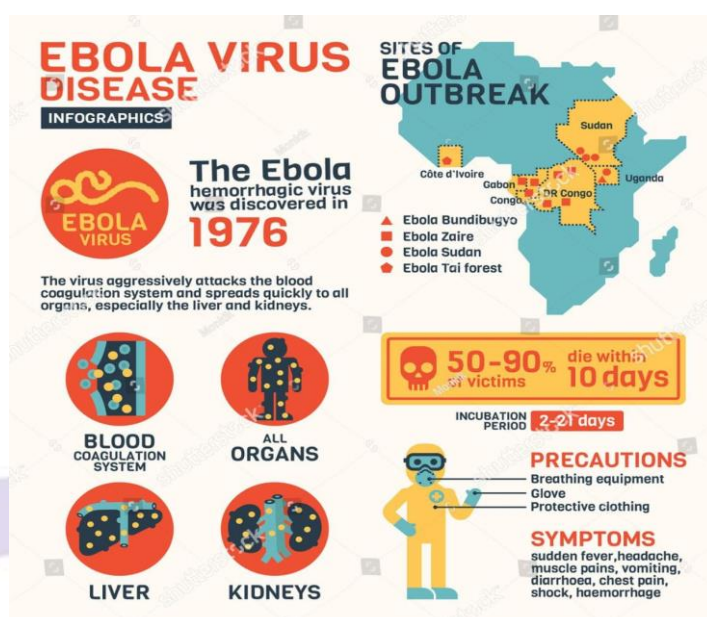
Ebola Survivors Can Trigger Outbreaks Years after Infection: Study (The Hindu)

Implications of this study

- Humans can now be added to the **list of intermediate hosts**.
- As they can serve as long-term Ebola virus 'reservoirs'.
- A need to **prioritise healthcare workers for vaccination**.
- A need of monitoring Ebola survivors for signs of a flare-up.

About Ebola virus disease (EVD) (Formerly: Ebola haemorrhagic fever):

- It is a severe, often fatal illness in humans.
- It was **first discovered** in 1976 in Democratic Republic of Congo.
- Natural hosts: **Fruit bats** of the Pteropodidae family.
- **Transmission:** To people from wild animals.
 - Spreads in human through **human-to-human transmission**.
- There is yet **no licensed treatment** for it.



African swine fever (ASF)

- It is a highly contagious and fatal **animal disease**.
- It infects **domestic and wild pigs**.
 - Typically results in an acute form of **hemorrhagic fever**.
- It was **1st detected in Africa** (1920s).
- Mortality is close to 100%.
- There is **no approved vaccine**.
- Only way to stop it spreading is **by culling the animals**.
- **News context:** After Mizoram witnessed the ASF outbreak, cases have been reported in Tripura.

Landsat 9 (Earth monitoring satellite) (Indian Express)

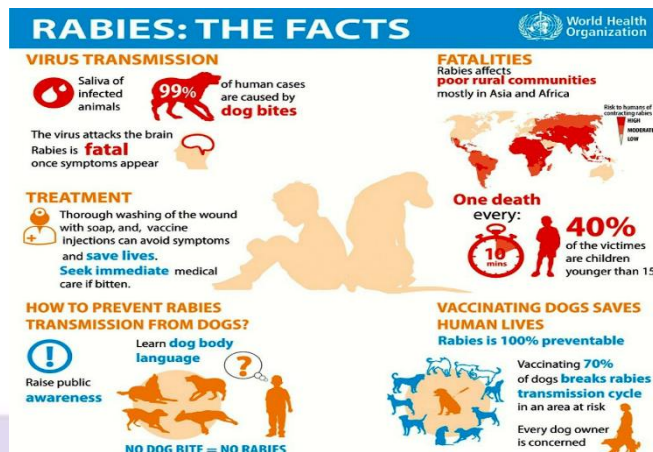
- It is a joint mission of **NASA and US Geological Survey (USGS)**.
- With **Landsat 8**, it will collect images of Earth's surface.
- First Landsat satellite was **launched in 1972**.

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National Action Plan for dog Mediated Rabies Elimination (NAPRE) (PIB)

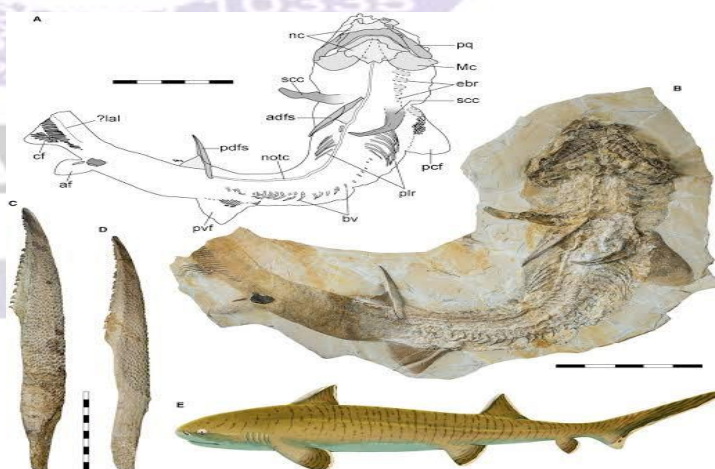
About Rabies

- It is a **fatal but preventable** viral disease.
- **Spread:** To **people and pets** if they are bitten or scratched by a rabid animal.
- Mostly found in wild animals like bats, raccoons, skunks, and foxes, dogs.
 - Most rabies deaths in people around the world are caused by dog bites.
- This virus infects the **central nervous system**.
- It affects **only mammals**.
- **News context:** NAPRE by 2030 was unveiled on the occasion of World Rabies Day.
 - **National Centre for Disease Control (NCDC)** drafted action plan under Fisheries, Animal Husbandry, Dairying Ministry.



Hybodont Shark

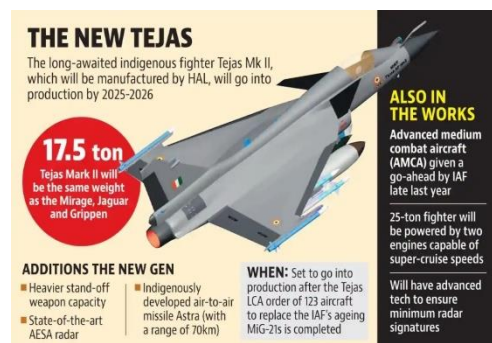
- It is an **extinct group of sharks**.
- They became **extinct** at the end of the **Cretaceous time**.
- **News context:** Discovery of teeth of new species of hybodont shark of Jurassic age for 1st time from Jaisalmer by Geological Survey of India (GSI).



SECURITY

Light Combat Aircraft-Tejas Mark 2 (LCA-Mk2) (The Hindu)

- It is the second generation fighter prototypes which is underway in association with the **DRDO's Aeronautical Development Agency (ADA)**.
- The first flight is **expected to be ready by 2023**.
- The Mk2 is **1,350 mm longer** featuring canards and can carry a **payload of 6,500 kg**.



Exercise PEACEFUL MISSION (Joint Counter Terrorism) (The Hindu)

- It is a **multilateral exercise**, which is conducted biennially between **SCO member states**.
- **6th edition** was hosted by **Russia** in the Orenburg Region.

15th Edition of EXERCISE SURYA KIRAN (The Hindu)

- **Indo-Nepal Joint Military Training** exercise Surya Kiran between Indian Army and Nepali Army was commenced at **Pithoragarh (UK)**.
- **Last edition** of Exercise Surya Kiran was conducted in **Nepal in 2019**.

Baijayant Panda Committee (The Hindu)

- It is a committee constituted by **Ministry of Defence** constituted a **High Level Expert Committee** for a comprehensive review of **National Cadet Corps (NCC)**.
- **Objective:** To suggest measures to empower NCC cadets to contribute more effectively towards nation building.

Akash Prime

- It is equipped with **an indigenous active RF seeker** for improved accuracy.
- It is surface to air missile.
- **News context:** Newer version of Akash missile tested by DRDO.

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Exercise Samudra Shakti (India and Indonesian Navies)

- It is a bilateral exercise between India and Indonesian navies.
- It started in 2018.

ART & CULTURE, HISTORY

128th anniversary of the historic Chicago address of Swami Vivekananda (The Hindu)

Historic Chicago Address of Swami Vivekananda

- **On September 11, 1893**, Vivekananda delivered his famous speech at the '**Parliament of the World's Religions**'.
- The address was on **Hinduism and Indian culture**.
- His address drew the world's attention to the ancient **Indian philosophy of Vedanta**.

Swami Vivekananda (Birth: January 12, 1863)

- He was known as **Narendra Nath Datta** in his pre-monastic life.
- He was an ardent **disciple of Sri Ramakrishna Paramahansa** and a major force in the **revival of Hinduism** in India.
- In 1984, Indian Government declared **12 January** as **National Youth Day**.
- In **1893**, he took the **name 'Vivekananda'** after **Maharaja Ajit Singh of the Khetri State** requested him to do so.
- He formed the **Ramakrishna Mission in 1897**.
- In **1899**, he established the **Belur Math**.
- He preached '**neo-Vedanta**', an interpretation of Hinduism through a Western lens.
- **Subhas Chandra Bose** had called Vivekananda the "**maker of modern India**."
- **Books:** 'Raja Yoga', 'Jnana Yoga', 'Karma Yoga'



Subramaniya Bharathiyar (The Hindu)

- **News context:** India's Vice-President paid homage to Subramania Bharati.

About Subramania Bharati (Born: 1882, Tamil Nadu)

- He was a poet, freedom fighter and **social reformer**.
- He was known as **Mahakavi Bharathiyar**.
- **His literary works:** "Kannan Pattu" "Nilavum Vanminum Katrum" "Panchali Sabatham" "Kuyil Pattu".
- He published "**Sudesa Geethangal**" in **1908**.
- In mid-1908, Bharati began to **serialise Gnanaratham** in his political weekly, **India**.
- In **1949**, he became the **first poet** whose works were **nationalised by the state government**.
- He was against caste system.
 - He declared that there were **only two castes-men and women** and nothing more than that.

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Samvatsari (The Hindu)

- It is a **festival** celebrated by **Jain community**, especially the **Shwetambara sect**.
- It is the last day of an eight-day observance of prayers called **Paryushana Parva or Paryushana**.
- Samvatsari is also known as the **Day of Forgiveness**.

Battle of Saragarhi (Indian Express)

- **News context:** September 12 marks the 124th anniversary of the Battle of Saragarhi.
- **Battle of Saragarhi (British Raj vs Afghan tribesmen): 12 September 1897**
- 21 soldiers from British Army were pitted against over 8,000 **Afridi and Orakzai tribals**.
 - But they managed to hold the fort for seven hours.
- Soldiers of **36th Sikhs** platoon were led by **Havildar Ishar Singh**.
- **Importance of Saragarhi**
- Saragarhi was the communication tower **between Fort Lockhart and Fort Gulistan**.
 - These forts, **now in Pakistan**, were built by **Maharaja Ranjit Singh** but renamed by the British.

Thamirabarani (Porunai) civilization (The Hindu)

- **News context:** A US-based lab has carbon-dated the remaining discovered from this ancient civilization in Tamil Nadu to at least 3,200 years.
- **Key Details**
- This may be oldest civilization, **older than the Vaigai civilization** which is believed to be **2,600 years old**.
- **Thamirabarani (Porunai) River:**
 - **Origination:** **Western Ghats (Agastyarkoodam peak of Pothigai hills)**.
 - **Falls into Gulf of Mannar.**

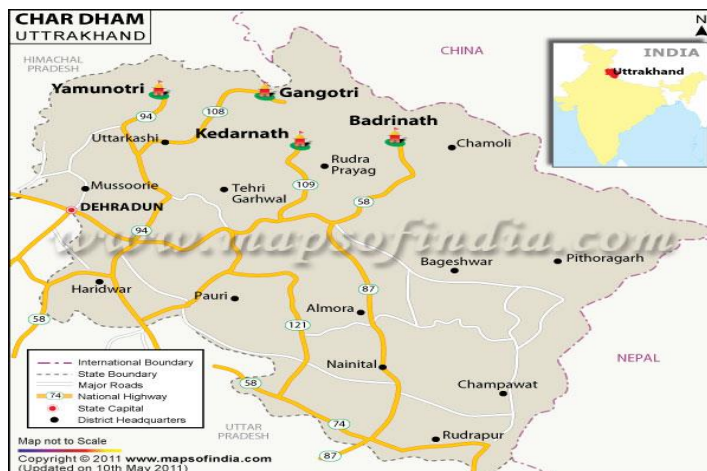
Raja Mahendra Pratap Singh (Indian Express)

- **News context:** Government laid the foundation stone for Raja Mahendra Pratap Singh State University in Aligarh.
- **About Raja Mahendra Pratap Singh**
- He was born in a royal family in **1886 in Hathras**.
- During World War I, he left India and **led the German-backed first Provisional Government of India in Kabul, Afghanistan**.
 - He declared himself **its President** while waging a war against colonial rule.
- It was around this time (1917) that Mahendra Pratap was **received by Lenin and Leon Trotsky in Petrograd, in Russia**.
- In 1911-12, he went off to fight in the **looming Balkan War in Turkey**, on the side of the Ottoman Empire.
- In 1932, he was nominated for the **Nobel Peace Prize**.
- **Political career:** In **1957**, Mahendra Pratap contested elections as an independent and defeated former PM Atal Bihari Vajpayee from Mathura (Uttar Pradesh).
 - In 1913 he took part in **Gandhi's campaign in South Africa**.
 - In 1925 he went on a mission to **Tibet and met the Dalai Lama**.
 - In free India, he diligently pursued **his ideal of panchayati raj**.

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Char Dham (The Hindu)

- Char Dham means Four Dhams i.e. four religious places.
- Char Dham is a collective term used for religious circuit covering **Holy hindu pilgrimage centres** of:
 - Badarinath, Kedarnath, Gangotri, Yamunotri.
- All four temple shrines are located in **Garhwal Himalayas range of Uttarakhand**.



Shankhalipi Script (The Hindu)

- News context:** Archaeologists found 'shankhalipi' inscriptions on the stairs of an ancient temple, Etah, UP.
 - Gupta Period
 - It mentioned 'Sri Mahendraditya', title of Kumaragupta- I of Gupta dynasty.

Shankhalipi Script (or shell-script)

- It describes ornate spiral characters assumed to be Brahmi derivatives.
 - Looks like conch shells or shankhas.

SOCIAL ISSUES

No SC, ST, OBC quota for NRIs appearing for NEET (The Hindu)

- News context:** Ministry of Health that aspiring candidates for NEET can only opt for one quota category.

About NEET:

- It is qualifying test for **MBBS and BDS**.
- It is conducted **by NTA**.

More on this news:

- NRI students belonging to SC, ST and OBC can no longer enjoy the reservation benefits in NEET.

Non-resident:

WHO IS A NON-RESIDENT

➤ The number of days stayed in India determines residential status for income tax purposes	➤ A resident of India is an individual who stays in the country for at least 182 days in a fiscal year, or at least 60 days in a fiscal with 365 days or more during the previous four years
➤ If an individual who is also an Indian citizen takes up employment abroad, the period of 60 days is replaced by 182 days	➤ If a person is not a tax resident of India, he is a non-resident



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Swachh Survekshan Grameen 2021 (PIB)

- It was launched under Swachh Bharat Mission Phase- 2.
- **Swachh Survekshan Grameen 2021:**
 - To assess hygiene, cleanliness, sanitation.
 - To award ODF+ status to villages.
- **Coverage:** 698 Districts.
 - Public places, Schools, Anganwadis, public health centres etc.

Maintenance and Welfare of Parents and Senior Citizens Act, 2007 (The Hindu)

- **News context:** In a case, the Bombay HC has come to the aid of senior citizens.

About the issue

- As a last resort, the parents invoked the provisions of the **Maintenance and Welfare of Parents and Senior Citizens Act, 2007.**
- **Special tribunal** under the Act granted relief to the parents, against which the son and his family moved the high court.

About the Maintenance and Welfare of Parents and Senior Citizens Act, 2007

- This act makes it **legally obliging** for adult children and heirs to provide for parents by way of **a monthly allowance.**
- This Act provides **an inexpensive and speedy procedure** to claim monthly maintenance for parents and senior citizens.
- According to this Act, parents could mean **biological, adoptive or step-parents.**
- Under this Act, there are also provisions to protect the **life and property of such persons (elderly).**

Provisions regarding the setting up of old-age homes

- **As per Section 19** of the law, **State Government may establish and maintain** such number of old-age homes at accessible places, as it may deem necessary, in a phased manner.
 - Beginning with **at least one in each district.**
- State Government may also; prescribe a scheme for management **of old-age homes.**

National Trust (PIB)

- **News context:** Ministry of Social Justice & Empowerment's meetings with officials of J&K and Ladakh for implementation of National Trust Act, 1999.

About National Trust Act, 1999

- This act looks into the **welfare of people with autism, cerebral palsy, mental retardation** and multiple disabilities.
- The act also provides for the **setting up of the National Trust.**

What is National Trust?

- It is a **statutory body** of the **Ministry of Social Justice and Empowerment.**
- It was set up under the **"National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities" Act.**
- Its mandate is to discharge two basic duties:
 - **Legal**
 - **Welfare.**

Four Disabilities under NTA

- Autism, Cerebral Palsy, Mental Retardation, Multiple Disabilities.

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Caste Census (The Hindu)

- **News context:** Union government said that the caste-based data enumerated in the Socio-Economic Caste Census (SECC) of 2011 was unusable.
 - In 2016, Registrar-General and Census Commissioner take a contradictory move.

Data confusion

- Government had said that total number of castes surveyed in 1931 was 4,147.
- SECC figures show that there are more than 46 lakh different castes.
- Assuming that some castes may bifurcate into sub-castes, total number cannot be exponentially high to this extent.
- Entire exercise was corrupted because enumerators had used different spellings for same castes.
- In many cases respondents, government said, had refused to divulge their castes.

What is SECC 2011?

- SECC - 2011 was a major exercise to obtain data **about socio-economic status** of various communities.
- It had two components:
 - A survey of **rural and urban households**
 - Ranking of these households based on pre-set parameters,
- **Only details of the economic conditions** of the people in rural and urban households were released.
- Caste data has **not been released till now.**

Census & SECC

- Census provides a portrait of Indian population.
- Census falls under the Census Act of 1948.
- All Census data considered confidential.
- SECC is a tool to identify beneficiaries of state support.
- All personal information given in SECC is open for use by Government departments.

Swachh Survekshan 2021

- Launched to monitor performance of **Swachh Bharat Abhiyan (2014).**
- **Aim:** Healthy competition among cities to **become India's cleanest cities.**
- **News context:** MoHUA has launched 7th edition of Swachh Survekshan.

ELECTIONS

NO NEWS.

JUDICIARY

Appointment of Supreme Court Judges (The Hindu)

- **News context:** Swearing-in of the 9 new judges of SC.
 - 3 women judges took oath.
 - It was first time SC allowed a live telecast of ceremony.

Collegium System

- It is system of appointment and transfer of judges.
- Through judgments of SC not by an Act of Parliament or by provision of the Constitution.

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- No mention in Constitution.
- **SC Collegium**
 - It is headed by CJI and comprises 4 other senior most judges of court.
- **HC collegiums**
 - It is headed by its CJ and 4 other senior most judges of that court.

Evolution

1st Judge Case (1981)

- It declared "primacy" of CJI recommendation on judicial appointments and transfers can be refused for "cogent reasons."
- It gave executive primacy over judiciary in appointments for 12 years.

2nd Judge Case (1993)

- SC introduced system, holding "consultation" really meant "concurrence".
- It said that not CJI's individual opinion, but an institutional opinion formed in consultation with 2 senior-most judges in SC.

3rd Judge Case (1998)

- SC on President's reference expanded Collegium to 5-member body.
- It consists CJI and 4 senior-most colleagues.

Related Constitutional Provisions:

- **Article 124(2):** It says judges of SC appointed by President with consultation of SC and HC judges as he may deem it necessary.
- **Article 217:** It states that judge of HC shall be appointed by President consultation with CJI and Governor.

CJI flags communal content in media. (The Hindu)

- **News context:** Observation made by CJI while adjudicating on a case related to communalization of some sections of media in the country.

More on this news:

- Such cases of communalized reporting are increasing in the country in recent times.
 - Ex: UPSC Jihad, Hadiya case, Triple Talaq case etc.
- The court said **lack of adequate accountability** to hold social media and OTT content for their actions.
- The government highlighted the recent steps it had taken to ensure accountability in this regard.
 - Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 and Cable Television Networks (Amendment) Rules of 2021.

Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:

- It mandates a **grievance redressal system** for OTT and digital portals.
- Appointment of a chief compliance officer and nodal contact person who can be in touch with law enforcement agencies 24/7.
- A grievance officer: will register grievance within 24 hours and dispose of it in 15 days.
- Removal of content: within 24 hours after a complaint particularly related to women.
- A monthly report: about the number of complaints received and the status of redressal.
- There will be three levels of regulation for news publishers:
 - Self-regulation
 - Self-regulatory body (headed by retired judge or an eminent person)
 - Information and Broadcasting Ministry, including codes of practices and a grievance committee.

Cable Television Networks (Amendment) Rules, 2021:

- It provides three-level grievance redressal mechanism:
 - Self-regulation by broadcasters, self-regulation by the self-regulating bodies of the broadcasters.
- Procedure for grievance redressal:

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- A viewer can file a complaint directly to the broadcaster, have to respond within 15 days.
- If complainant is not satisfied with response then:
 - The self-regulating bodies set up by TV channels should deal with the case in 60 days.
- If complainant is not satisfied with the decision of the self-regulating body:
 - He may appeal to the Central Government, they should respond within 15 days.
- Appeals will be dealt by Inter-Departmental Committee (headed by Additional Secretary in the Ministry of Information and Broadcasting).

Delhi High Court observations on the 'Right to be Forgotten' (Indian Express)

- **News context:** Delhi HC upheld the view that the "Right to Privacy" includes the "Right to be forgotten" and the "Right to be Left Alone".

'Right to be Forgotten' in the Indian context

- Right to be forgotten falls under the purview of an **individual's right to privacy**, which is governed by the **Personal Data Protection Bill** (yet to be passed).
- In 2017, **Right to Privacy was declared a fundamental right** (under Article 21) by the Supreme Court in its **landmark Puttuswamy case judgement**.

Personal Data Protection Bill and Right to be forgotten

- **Right to privacy** is also governed by the Personal Data Protection Bill that is yet to be passed by Parliament.
 - Bill exclusively talks **about the "Right to be forgotten."**
- Under this right, users can **de-link, limit, delete or correct** the disclosure of their personal information held by data fiduciaries.

Issues in the Bill:

- **Sensitivity of the personal data** and information cannot be determined independently by the person concerned.
 - But, it will be overseen by the **Data Protection Authority (DPA)**.

Sedition (The Hindu)

- **Section 124A** of the IPC
 - Punishment for spreading hatred or excite disaffection towards, government.

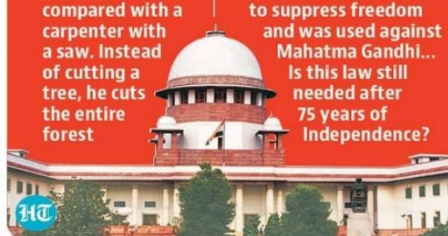
Major Supreme Court Judgements

- Kedar Nath Singh vs State of Bihar (1962)
- Balwant Singh vs State of Punjab (1995)
- 153 (promoting enmity between classes)

WHAT THE APEX COURT SAID

This government has been scrapping many obsolete laws. We don't know why they are not looking into this law? Continuance of this law is a serious threat to liberty

- The enormous power of misuse of this section can be compared with a carpenter with a saw. Instead of cutting a tree, he cuts the entire forest
- There is no dispute that it is a colonial law and was used by the British to suppress freedom and was used against Mahatma Gandhi... Is this law still needed after 75 years of Independence?



WHAT IS SECTION 124(A)?

Under Section 124A of IPC, the offence of sedition is committed when any person by words or otherwise brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the govt established by law

- The penal provision is punishable with a jail term ranging between three years to life term

LOW CONVICTION RATE

- Between 2016 and 2019, the number of sedition cases rose by 160% to 93
- But in 2019, the conviction rate was 3.3%
- This means just 2 of the 93 accused were convicted

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MISC.

National Institute Ranking Framework (NIRF) (Indian Express)

- It is 1st effort to rank higher education institutions (HEIs).
- It lists on 11 categories: National ranking, Universities.
- Medical, Management, Pharmacy, Law etc.
- It was made compulsory for all government-run institutions (2018).
- **Assessment on 5 Parameters:**
 - Teaching, Learning and Resources (TLR)
 - Research and Professional Practice (RP)
 - Graduation Outcomes (GO)
 - Outreach and Inclusivity (OI)
 - Peer Perception.
- **News Context:** Education Ministry launched 6th edition of NIRF.

100% first dose vaccination in Goa (The Hindu)

- Goa has become the **second state** in India to complete **100% covid vaccination** of the first dose for all its eligible residents.
- Himachal Pradesh was the **first state** to achieve this feat.

National Intelligence Grid (NATGRID) (The Hindu)

- **News context:** Government is soon expected to launch the NATGRID.

NATGRID

- It helps in **preventing terrorist attacks** with **real-time data and access** to classified information.
- In **2010**, the Cabinet Committee on Security (CCS) had given approval to the **NATGRID project**.
- It will be a medium for **at least 10 Central agencies** such as the **Intelligence Bureau (IB) and the Research and Analysis Wing (R&AW)** to access data on a secured platform.

National Engineer's day (The Hindu)

- **News context:** Every year on September 15, **India along with Sri Lanka and Tanzania** celebrates National Engineer's day.
 - 2021 marks the **160th birth anniversary** of M Visvesvaraya.

About Sir M Visvesvaraya (Born: September 15, 1861: Karnataka)

- He was an expert in irrigation techniques and flood disaster management.
- He also served as the **19th Diwan of Mysore** from 1912 to 1919.

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- In 1915 he was awarded '**Knight**' as a commander of the British Indian Empire **by King George V.**

Key contributions

- He patented and installed an irrigation system with water floodgates at the **Khadakvasla reservoir near Pune.**
 - **Aim:** To raise the food supply level and storage to the highest levels known as '**block system**' in **1903.**
 - Same system was installed at **Gwalior's Tigra Dam** and **Mysuru's Krishnaraja Sagara (KRS) dam**, the latter of which created one of the largest reservoirs in Asia at the time.
- He played an important role in the foundation of **Government Engineering College** at Bangalore in 1917.
 - The college was later renamed after him as **University Visvesvaraya College of Engineering (UVCE).**
- He played a key role in developing a system **to protect Visakhapatnam port from sea erosion.**
- **Books:** 'Reconstructing India' and 'Planned Economy of India'.
- **Legacy:** For his contribution, the government awarded him with India's highest honor '**Bharat Ratna**' in **1955.**

Hindi Diwas (14th September) (The Hindu)

- **Aim:** To raise **awareness about the language** and also commemorate the event when it was adopted as one of the **official languages of India.**
- Hindi is written in the **Devanagari script.**
- It was adopted as the **official language of India** on **14th September, 1949.**
- It is one of the **22 scheduled languages** of India.
- Besides Hindi, **English** is the other official language (**Article 343**).
- Hindi is also an **eighth schedule language.**
- **Article 351** pertains to 'Directive for development of the Hindi language'.

World Patient Safety Day 2021 (17th September) (The Hindu)

- It is observed to create understanding globally about patient safety, increase public engagement in health care safety, etc.
- **Theme:** "Safe maternal and newborn care".
- The slogan for the day is "**Act now for safe and respectful childbirth!**"
- Day was established by the **World Health Assembly** through resolution WHA72.6 on "Global action on patient safety" in 2019.

Kushinagar Airport declared as Customs Notified Airport (The Hindu)

- **Central Board of Indirect Taxes and Customs (CBIC)** has declared Kushinagar Airport as a Customs notified airport.
- A customs airport is an **airport notified by the appropriate customs authority** of the country as an airport which shall be airports for the:
 - **Unloading of imported goods.**
 - **Loading of export goods** or any class of such goods.

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- This would also **facilitate international passenger movements** including that of Buddhist pilgrims.

About Kushinagar

- It is an important Buddhist pilgrimage site, where Gautam Buddha attained **Mahaparinirvan**.
- Kushinagar is dotted with several other Buddhist sites in the nearby surroundings like
 - **Sravasti**
 - **Kapilvastu**
 - **Lumbini**

Strophodus jaisalmerensis

- It is the **new species of Hybodont Shark** (currently extinct) belonging to the **Jurassic age**.
 - Hybodont Sharks dominated **both marine and fluvial environments** during the Triassic and early Jurassic times.
 - They became **extinct by the end of the Cretaceous period**.
- The teeth of the new species were recently discovered by a team from the **Geological Survey of India (GSI)** in Jaisalmer, Rajasthan.
 - The specimen is estimated to be 160-168 million years old.
- With this discovery, **the genus Strophodus** is discovered for the first time in the Indian subcontinent.
- It is **only third** such discovery **from Asia after Japan and Thailand**.

27th Global Ozone Day (The Hindu)

- **News context:** World Ozone Day is celebrated on 16th September each year to commemorate the **signing of the Montreal Protocol**.

About Global Ozone Day

- **Montreal Protocol** for phasing out of production and consumption of **Ozone Depleting Substances** came into force on this day **in 1987**.
- **Theme of World Ozone Day 2021:** "Montreal Protocol – Keeping us, our food and vaccines cool".

What is the Montreal Protocol (1987)?

- Montreal Protocol on **Substances that Deplete the Ozone Layer** was designed to stop the production and **import of ozone depleting substances**.
 - And **reduce their concentration** in the atmosphere to help protect the earth's ozone layer.
- This protocol sits **under the Vienna Convention** for the Protection of the Ozone Layer.


What is the 'Kigali Amendment'?

- It was **adopted by the Parties to the Montreal Protocol** in 2016 at 28th Meeting of the Parties to the Montreal Protocol held at Kigali, Rwanda.
- Under this; Parties to the Montreal Protocol will **phase down production and consumption of Hydrofluorocarbons**, commonly known as HFCs.
- All amendments and adjustments of the Montreal Protocol, prior to the Kigali Amendment have Universal support.

India and Montreal Protocol

- India, as Party to the Montreal Protocol **since June 1992**, has been successfully implementing the Montreal Protocol.

NOT A COOL REFRIGERANT



With the heat rising, more Indian homes are investing in ACs.

Q: What is HFC-23?

It is a potent greenhouse gas that results when producing a refrigerant. HCFC-22 — more popularly known as R-22.

1 kg of HFC-23 in the air traps **14,800 times** more heat than an equivalent amount of CO₂.

● **India's installed cooling capacity |** Slated to increase by 5 times by 2030

5.4x

● **HFCs to cause 54% of economy's warming impact in 2050**

Q: What's happening in Kigali?

198 countries agreed to phase out gases like HFC-23, which in turn are only one among 19 HFCs, by the late 2040s

198 countries

More time required | Developing countries such as India are pushing for more time to phase out HFC gases due to the high cost of patents that govern alternative refrigerants

Burning problem | Incineration of HFC by-product will avoid 444 mn tonnes of CO₂

Q: What is India's plan?

It will "freeze" HFC use by 2028 on a 2024-2026 "baseline", which means it will not emit more HFC after 2031 than it does in 2024-2026

The catch | This is contingent on countries such as the U.S. agreeing to a freeze year of 2019 or earlier. In return, India also wants its domestic companies be compensated by developed countries for transitioning to low global-warming-threatening refrigerants


Q: Will ACs become costlier?

Not clear. Refrigerant manufacturers will spend Rs. 19 to burn every kilo of HFC-23

● It isn't yet clear if they will pass it on to end consumers

We were flexible, accommodative and ambitious. The world is one family and as a responsible member of the global family, we played our part to support and nurture this agreement.

— **ANIL DAVE**
Environment Minister



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- Under it, India has **phased out CFCs, Carbon tetrachloride, Halons, Methyl Bromide and Methyl Chloroform for controlled uses.**
- Currently HCFCs are being phased out as per the accelerated schedule of the Montreal Protocol.
- Indian Government has recently **approved the ratification of the Kigali Amendment** to the Montreal Protocol.

Prof. S.K. Joshi Laboratory Excellence Award (The Hindu)

- It was launched recently by the **Quality Council of India.**
- This is **country's first-of-its-kind Laboratory Excellence Award.**
- This award will be **open to all** currently operational Laboratories.
- **S.K. Joshi** was a luminary in the field of Science and Academia.

World's longest expressway between Delhi and Mumbai (The Hindu)

- This 1380-km eight-lane expressway passes through **Delhi, Haryana, Rajasthan, Madhya Pradesh and Gujarat.**
 - It will be opened in 2023.
- The expressway is the **first in Asia** and **only the second in the world** to feature **animal overpasses** to facilitate unrestricted movement of wildlife.

Global Innovation Index – 2021 (The Hindu)

- India upgraded two spots.
- Ranked 46th.
- Released by World Intellectual Property Organization (WIPO).
- India at 81 in 2015 and 46 in 2021.

Competition Commission of India and Cartelization

- **News context:** CCI found that three beer companies had colluded to fix beer prices for full decade in between 2009 and 2018.
 - CCI slapped a penalty of Rs 873 crore, for cartelisation in sale and supply of beer in 10 states and UTs.

What is a Cartel?

- According to CCI:
 - "Cartel includes an **association of producers, sellers, distributors, traders or service providers.**
 - Who, by agreement amongst themselves, limit, control or attempt to control
 - Production, distribution, sale or price of, or, trade in goods or provision of services.
- Three common components of cartel are:
 - An agreement, Between competitors, Restrict competition.

Features of cartel:

- Agreement that forms cartel need not be formal or written.
- Cartels almost invariably involve secret conspiracies.
- Competitors refer to companies at the same level of the economy.

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- Direct competition with each other to sell goods or provide services.

What do these cartels do?

- Price-fixing, Output restrictions, Market allocation, Bid-rigging.

Why Companies Inclined towards Cartelisation?

- They blamed government rules, which require them to seek approvals from state authorities for any price revisions.

Ordnance Factory Board (The Hindu)

- **News context:** Ordnance Factory Board of 220-years old dissolved on October 1, and its units will be corporatized under seven PSUs.

Need

- It will bring these entities under the purview of The Companies Act.
- Improvements in efficiency.
- Make products cost-competitive, Enhance their quality.
- Functioning directly under the Ministry of Defence
 - OFB and its factories could not retain profits, and thus had no incentive to work towards increasing them.

Recommendations of various Committees

- Restructuring of the Kolkata-headquartered OFB into corporate entities. Recommended by:
 - TKS Nair Committee (2000),
 - Vijay Kelkar Committee (2005),
 - Vice Admiral Raman Puri Committee (2015).
- Shekatkar Committee was not in favor of corporatization
 - But recommended regular audits.

WHAT MOD & ORDNANCE EMPLOYEES SAY

MoD Justification	Employee Unions' Argument
➤ Improve flexibility & dynamism	➤ Move is arbitrary
➤ Bringing cost down for armed forces	➤ Move in violation of previous assurances
➤ Improve quality by following market based standards	➤ Corporatisation won't be commercially viable
➤ Better utilisation of assets of OFB	➤ Fear fluctuation of orders
➤ Timely supply to armed forces	➤ Fear uneconomical order quantity
➤ Increase turnover and profitability	➤ Risk to national security
➤ Greater incentive for exporting	➤ Life-cycle support will be needed for 30-40yrs
➤ Create JVs for Russian spares through intergovernmental agreements (IGAs)	➤ Stakeholders not consulted

Highlights of the Bill:

- To provide for the maintenance of essential defence services.
- To secure the security of nation and the life and property of public at large.
- It empowers the government to declare services mentioned in it as essential defence services.
- It prohibits strike and lockouts.

Latest Changes

- Ordnance Factory Board was directly under the Department of Defence Production.
- It worked as an arm of the government. But, in June the government announced its corporatization.

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3rd State Food Safety Index (SFSI) (PIB)

Top ranking states/UTs

- **Among larger states:** Gujarat> Kerala>Tamil Nadu.
- **Among smaller states:** Goa>Meghalaya>Manipur.
- **Among UTs:** J&K> Andaman & Nicobar Islands>New Delhi.

What is State Food Safety Index (SFSI)?

- It provides an objective framework for **evaluating food safety** across all States/UTs.
- **1st SFSI** (for 2018-19) was announced on 1st -ever **World Food Safety Day** in 2019.
- It is developed by FSSAI (Food Safety and Standards Authority of India).
- **5 significant parameters of food safety:**
 - Human Resources and Institutional Data, Compliance
 - Food Testing – Infrastructure and Surveillance
 - Training & Capacity Building, Consumer Empowerment

National Snakebite Awareness Summit

- India is registering **an alarming number of deaths** due to snakebite.
- **No management mechanism in peripheral system** to treat snakebites.
- India recorded 1.2 million snakebite deaths (2000-2019).
 - **97%** of these deaths happened in villages.
 - **>50% were men** in their most productive years.
- **News context:** It was organized virtually by **Integrated Health and Wellbeing Council**, New Delhi.
- **Note:** International Snakebite Awareness Day (19th September).

EDITORIALS

QUAD (Quadrilateral Security Dialogue)

A meeting of the Quad nations (United States, India, Japan and Australia), hosted by US President, was successfully concluded on September 24. The leaders have put forth various ambitious initiatives:

- **Ending the COVID-19 pandemic, by increasing production of vaccines:** Quad countries have pledged to donate more than 1.2 billion vaccine doses globally. Through \$3.3 billion in the COVID-19 Crisis Response Emergency Support Loan program, Japan will continue to help regional countries to procure safe, effective, and quality-assured vaccines. Australia will deliver \$212 million in grant aid to purchase vaccines for Southeast Asia and the Pacific. India also commits to resume exports of safe and effective COVID-19 vaccines.
- **Promoting high-standards infrastructure:** Japan and India, with the help of Japan Bank for International Cooperation, will work to enhance investments in the healthcare sector, including vaccine and treatment drugs. The Quad will launch the Quad Infrastructure Coordination Group on high-standards infrastructure to share assessments of regional infrastructure needs.
- **Combating the climate crisis:** Quad nations will focus more on the themes of climate ambition, including working on 2030 targets for national emissions and renewable energy, clean-energy innovation and deployment. The Quad will form a Green-Shipping Network to deploy green-port infrastructure and clean-bunkering fuels at scale. Quad partners will organize their work by launching a Quad Shipping Taskforce and will invite leading ports, including Los Angeles, Mumbai Port Trust, Sydney (Botany), and Yokohama, to form a network dedicated to greening and decarbonizing the shipping value chain.
- **Partnering on emerging technologies, space, and cyber security:** Quad leaders to foster an open, accessible, and secure technology ecosystem. The Quad will:

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- Publish a Quad Statement of Principles.
- Establish Technical Standards Contact Groups.
- Launch a Semiconductor Supply Chain Initiative.
- Support 5G Deployment and Diversification.
- Monitor Biotechnology Scanning.

The Quad will launch new efforts to bolster infrastructure resilience against cyber threats. It also plans to launch a Quad Senior Cyber Group, which work between industry and government on driving the improvements in areas including adoption and implementation of shared cyber standards; development of secure software; building workforce and talent; and promoting the scalability and cybersecurity of secure and trustworthy digital infrastructure.

Quad countries will also share satellite Data to Protect the Earth and its waters which will help better to adapt climate change and to build capacity in other Indo-Pacific states that are at grave climate risk.

Challenges

- QUAD is not structured like a typical multilateral organisation.
- It lacks a secretariat and any permanent decision-making body.

Conclusion

- To establish working groups on vaccine development by the Quad's decision will create a democratic, inclusive blueprint that will encourage other states to work with the Quad.

DRONE RULES 2021

Indian Government recently promulgated liberalised 'The Drone Rules, 2021', replacing the erstwhile Unmanned Aircraft System Rules 2021, to regulate the use and operation of Drones or Unmanned Aerial System (UAS) in India. India has the potential to be global drone hub by 2030.

Unmanned Aircraft Systems (UAS), commonly known as drones, offer tremendous benefits to almost all sectors of the economy like – agriculture, mining, infrastructure, surveillance, emergency response, transportation, geo-spatial mapping, defence, and law enforcement etc.

The aim of the Rules is to create a 'digital sky platform' which is a business-friendly single-window online system, with minimum human interference, where most of the permissions will be self-generated.

Major highlights

- Coverage of drones under new rules has been increased from 300 kg to 500 kg. This will cover drone taxis also.
- Type Certificate is required only when a drone is to be operated in India. Importing and manufacturing drones purely for exports are exempt from type certification and unique identification number.
- The Rules have reduced the red-tape involved in the process of seeking compliance.
- Drone corridors will be developed for cargo deliveries.
- Standard operating procedures (SOP) and training procedure manuals (TPM) will be prescribed by DGCA on the digital sky platform for self-monitoring by users. No approvals required unless there is a significant departure from the prescribed procedures.
- Maximum penalty for violations reduced to INR 1 lakh.
- Safety and security features like 'No permission – no takeoff' (NPNT), real-time tracking beacon, geo-fencing etc. to be notified in future. A six-month lead time will be provided to the industry for compliance.
- Drone promotion council to be set up by Government with participation from academia, startups and other stakeholders to facilitate a growth-oriented regulatory regime.

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Drones

Drone has been defined as an UAS, that can operate autonomously or can be operated remotely without a pilot on board.

- Nano drone: Less than or equal to 250 grams.
- Micro drone: Greater than 250 grams and less than or equal to 2 kilograms.
- Small drone: Greater than 2 kilograms and less than or equal to 25 kilograms
- Medium drone: Greater than 25 kilograms and less than or equal to 150 kilograms
- Large drone: Greater than 150 kilograms

Drone Operations

The Rules give power to the Central Government to segregate the entire airspace of India into 3 zones- Red, Yellow and Green zones.

- Green Zone (Permissible Zone): The airspace of defined dimensions above the land areas or territorial waters of India, upto a vertical distance of 400 feet or 120 metres that has not been designated as a red zone or yellow zone in the airspace map for UAS operations; and the airspace upto a vertical distance of 200 feet or 60 metres above the area located between a lateral distance of 8 kilometre and 12 kilometres from the perimeter of an operational airport.
- Yellow zone (Intermediate zone): The airspace of defined dimensions above the land areas or territorial waters of India within which UAS operations are restricted and shall require permission from the concerned air traffic control authority. The airspace above 400 feet or 120 metres in the designated green zone and the airspace above 200 feet or 60 metres in the area located between the lateral distance of 8 kilometres and 12 kilometres from the perimeter of an operational airport.
- Red Zone (No-Fly Zone): The airspace of defined dimensions, above the land areas or territorial waters of India, or any installation or notified port limits specified by the Central Government beyond the territorial waters of India, within which UAS operations shall be permitted only by the Central Government. The Rules prohibit the operation of a drone in a red zone or yellow zone without prior permission. However, no such provision is required in the Green Zone.

AUKUS ALLIANCE

Australia, the UK & the US announced the formation of a trilateral pact known as AUKUS. As part of this, Australia will acquire nuclear-powered submarines with help from the U.K. and the U.S. With this alliance the three nations have committed to protecting the Indo-Pacific from China's dominance and built a class of nuclear-propelled submarines.

Agreement Involve

- Sharing of information and technology including intelligence and quantum technology as well as the acquisition of cruise missiles.
- The pact will focus on military capability, separating it from the Five Eyes intelligence-sharing alliance that also includes New Zealand and Canada.
- Nuclear submarines are to be built in Adelaide in South Australia and will involve the US and the UK providing consultation on technology for their production.

Tension in South China Sea

The South China Sea is one of the most disputed regions in the world. China claims most of it but surrounding countries and the US disagree. Claimant states are interested in retaining or acquiring the rights to fishing stocks, the exploration and potential exploitation of crude oil and natural gas in the seabed of various parts of the South China Sea, and the strategic control of important shipping lanes.

Why did Australia want to change its suppliers?

The perceived scale of the Chinese threat in the Indo-Pacific region has grown dramatically in recent years. Nuclear-propelled submarines in this context have longer range, are quicker and are harder to detect. They can stay submerged for months, shoot missiles longer distances and also carry more.

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3 Nations also allies in

- US & UK-NATO allies.
- US & Australia- ANZUS allies.
- Part of the Five Eyes intelligence alliance, (Australia, Canada, New Zealand, the U.K., and the U.S.).
- It is an opportunity for United Kingdom to reinsert itself more directly into the Indo-Pacific.

China has condemned the agreement as:

- Extremely irresponsible
- Seriously undermines regional peace and stability
- Intensifies the arms race
- Cold War mentality and ideological prejudice

What is the geopolitical significance?

- It means China faces a powerful new defence alliance in the Indo-Pacific.
- It also reaffirms that, after Brexit, the US still wants the UK, and not the EU, engaged as its key military partner.

Challenges

- First occurrence of a non-nuclear nation acquiring such capability.
- The Non-Nuclear stance by many countries like New Zealand in the region, it would go against it.

Bad Banks

FinMin announced India's first-ever Bad Bank i.e. NARCL-IDRCL (National Asset Reconstruction Company Ltd- India Debt Resolution Company Ltd).

NARCL

- The NARCL has been incorporated under the Companies Act and has applied to the Reserve Bank of India for license as an Asset Reconstruction Company (ARC).
- NARCL is basically a bad bank created by the government.
- The NARCL will pick up bad loans above a certain threshold from banks and would aim to sell them to prospective buyers of distressed debt.
- The NARCL will also be responsible for valuing bad loans to determine at what price they would be sold.

IDRCL

- The IDRCL is a service company or an operational entity, which will manage assets and loop in market professionals and turnaround experts. Public Sector Banks (PSBs) and Public FIs will hold a maximum of 49% stake and the rest will be with private sector lenders.

Need for Bad Bank

- To recover the loans
- Since 2016 the level of NPAs rose alarmingly
- Majority proportion of NPAs was with the PSBs.
- The need of the hour is to removing NPAs effectively

Current structure

- The already incorporated NARCL will acquire the 2 lakh worth stressed assets from various banks.
- While the newly established IDRCL will sell the stressed assets in the market.
- The new NARCL-IDRCL structure is the new bad bank of India.

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Working of NARCL-IDRCL

- From banks NARCL purchases bad loans by paying 15% as cash & remaining 85% in the form of Security Receipts.
- NARCL paybacks 85% to the banks, when the IDRCL sells the assets.
- Government will invoke its guarantee & pays the difference amount to the commercial banks, in case of a failed sale or loss sale of the assets.

Financial Stability Report

- From 7.5% in September 2020, under the baseline scenario, the gross NPAs of the banking sector are expected to shoot up to 13.5% of advances by September 2021.
- So, Bad banks can be helpful.

Benefits to banks

- In the restructuring of the loans, Bad banks can be more effective, quicker.
- Recovery speed will be better.
- Banking sector's health will improve
- Frozen assets will be back into economic circulation.
- Lending is difficult for banks due to a high level of NPAs as banks have to keep supplementary capital under the Basel Accord which reduces its capital base and the resulting losses erode depositor confidence.
- Bad banks will ease the provisioning requirement by the banks and help them to get on with business as usual, by way of absorbing NPAs.
- The better segregation of a bank's good assets from its bad assets which increases investors' confidence and helps banks to grow financially, by the creation of a bad bank.

Challenges

- Loans are shift from one government pocket (the public sector banks) to another (the bad bank).
- It may results in reckless lending by commercial banks.
- Bad banks may only concentrate on easily recoverable loans and not acquire critical loans which are difficult to recover.
- Bad banks can use unethical ways to recover loans.
- Political influence in decision-making can happen as there is Government stake in the Bad bank.

Conclusion

- A bad bank does not focus on the structural weaknesses in public sector banks such as management etc.
- The larger systemic issues will not be addressed by bad banks.
- Right people at right place are required for the job to be done more efficiently and a proper structural reform is needed to solve banking issues.
- The fundamentals of the economy need to be strengthened by the right people.

TALIBAN HAS RAISED MANY CONCERNS

The fall of Kabul into the hands of the Taliban has raised many concerns.

What's happening in Afghanistan?

- No Stable Leadership.
- Highly decentralized governance in lower levels resulted in each group following its own set of rules.
- Governance is more focused on policing & punishments.
- Evolved protection of human rights is missing.

At this juncture, Kabul led by the Taliban is under pressure from 4 Directions:

- Pakistan for security & past links
- China for investment
- Russia for intelligence
- West for the ability to conduct finance globally

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Pakistan & its role in Kabul's Pandora's Box:

- Though Pakistan has claimed victory in the Kabul negotiations but for Pakistan to physically intervene in a leadership crisis indicates its lack of control over the Doha & Haqqani factions.
- Further, Pakistan has to deal with an enormous refugee crisis.
- Because of the Afghan faltering fiscal situation, it expects key assistance from Pakistan.
- However, Pakistan itself is in dire economic straits due to restrictive IMF conditions & it will be exceedingly difficult to send supplies to Afghan on uncertain terms of payment.
- Additionally, Pakistan establishment worried about weak Helmandi Pashtun heading clergy would become strong in the govt & will come under the Indian & Western influence.

Pakistan has to be careful in the Afghan crisis due to the following worries about its future:

- USA's control of Afghan's forex & remittances
- UN & US Treasury possible sanctions
- Potential CAATSA sanctions for any Russian investment
- FATF for financial strangulation

At this juncture, the strategic-economic alliance that Pakistan established with China to bind India down to hard borders along its entire boundary just have mitigated by the Taliban victory. However, India now will use its only leftover option that is encouraging Pashtun separatism within Pakistan.

Trouble making Haqqanis:

- Pakistan has lost control over the sudden emergence of Anas Haqqani.
- The presence of Pakistani asset, ISI groomed Sirajuddin Haqqani is inconvenient to the US.
- His presence is a danger to the stability of the new Taliban regime.
- Therefore Pakistan is trying hard to bring Haqqanis on board with the Taliban regime.

Because Pakistan believes that if Haqqanis are left out from the equation, it would lead to destabilizing the nascent regime & will be forced to house a dissenting or warring Haqqani faction within Pakistan.

Concluding Remarks:

Pakistan's political obsession to destabilize its neighbours has made its economy fall well behind that of Bangladesh. Pakistan's victory in Afghanistan might make it a bigger nuisance for India & the region but it is unlikely to reverse the steady relative decline of Pak's comprehensive national power.

POLICE REFORMS

On 22nd September, the apex court has given historic judgment in Prakash Singh 2006 case by passing seven significant directions concerning the functioning of the police.

The seven main directives from the Supreme Court in the verdict were:

- Fixing the tenure and selection of the DGP
- A minimum tenure was sought for the Inspector General of Police
- Postings of officers being done by Police Establishment Boards (PEB) comprising police officers and senior bureaucrats
- Recommendation of setting up State Police Complaints Authority (SPCA)
- Separation of investigation and law and order functions
- Setting up of State Security Commissions (SSC)
- Forming a National Security Commission

Why do our policing need reform?

- The common public perception of our police being unprofessional, insensitive, brutal and corrupt. Hence the need for reforms.
- Good policing is a *sine qua non* for a healthy socio-cultural environment in society.
- The need for reform is dictated by the all-important role of the police as the primary protectors of the rule of law. It demands a police force that is apolitical, unquestionably fair and impartial, and free from all kinds of extraneous influences.

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Rationale behind the directives

- To reduce political interference in police functioning & rationalize the police performance evaluation system.
- To reduce politics & corruption and increase transparency in police appointments, promotions & transfers.
- Replacing the existing internal inquiries system & instilling public confidence in the police.
- To enable key police officials to withstand undue political interference
- To reduce the uncertainty of office & tenure for the DGPs by reducing arbitrariness & personal considerations of the ruling class in appointments.
- For encouraging specialization in police force & upgrading the overall performance.
- Increasing transparency & streamlining policing by speedier & scientific investigation.

What more needs to be done?

- Investigation & prosecution need improvement & all criminal trials must be completed within a year.
- Technology driven service delivery.
- Invest more resources to upgrade their e-portals for providing basic services to citizens.
- Police leadership has to concentrate, without any political interference.
- Implementation of the Bureau of Police Research.
- Ensure transparent & non-corrupt service delivery to citizens.
- Reduce the number of fruitless visits of a citizen to the police station.
- Vernacularization of e-portals has to be taken place.

Conclusion

The life of a common man in India can be transformed only when all the government departments provide maximum information & service through their portals respecting the defined processes & timelines

It is high time that the unholy nexus between the criminals, politicians, bureaucrats & police needs to be broken. While taking steps in the direction of decriminalization of politics, parallelly government needs to restructure the police system to build a robust criminal justice system based on justice Malimath committee recommendations.

Electric Vehicle Industry in India

The electric vehicle industry in India is picking pace with 100% FDI possible, new manufacturing hubs, and increased push to improving charging infrastructure. Recently, a production-linked incentive scheme for the automotive sector was approved by Cabinet to boost the manufacturing of electric vehicles and hydrogen fuel cell vehicles.

The burden of oil imports, rising pollution, and as well as international commitments to combat global climate change are among key factors motivating India's recent policies to speed up the transition to e-mobility.

Electric vehicle industry in India

- The Indian automotive industry is the fifth largest in the world and is slated to be the third largest by 2030.
- Electric vehicles manufacturing in India have a relative abundance of renewable energy resources and availability of skilled manpower in the technology and manufacturing sectors.
- The EV market in India will be a US\$206 billion opportunity by 2030 if India maintains steady progress to meet its ambitious 2030 target.
- India Energy Storage Alliance (IESA) projects that the Indian EV market will grow at a CAGR of 36 percent till 2026.

Existing EV ecosystem in India

India offers the world's largest market, especially in two-wheeler segment. 100 percent foreign direct investment is allowed in this sector under the automatic route.

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The federal government shift towards clean mobility, and recent amend to Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME) II scheme to make electric two-wheelers more affordable.

Emerging market players

- Many leading battery producers have picked up the cue from these incentives to orient new investments into green technologies, including in lithium-ion batteries.
- India's EV industries, leading players like OLA Electric Mobility, Ather Energy, are rapidly growing their market presence. Certain states like Karnataka and Tamil Nadu are rolling out innovative and timely investor-friendly policies and necessary infrastructure.
- There have also been positive developments in the expansion of charging infrastructure across the country – states like Andhra Pradesh, Uttar Pradesh, Bihar, and Telangana are setting impressive targets.
- Karnataka was the first state to introduce a comprehensive EV policy and has emerged as a hotspot for EV businesses in India.

Policy measures

- National Electric Mobility Mission Plan 2020 (NEMMP)
- FAME Phase I and Phase II
- Charging EVs is considered as a service, means that operating EV charging stations will not require a license.
- Green license plate for both commercial as well as private battery-operated vehicles.
- All battery operated, ethanol-powered, and methanol-powered transport vehicles will be exempted from the commercial permit requirement.
- Department of Science and Technology has launched a grand challenge for developing the Indian Standards for Electric Vehicle Charging Infrastructure.
- The National Mission on Transformative Mobility and Battery Storage has been approved by the cabinet.

Challenges faced by EV industry

- Insufficient charging infrastructure.
- High costs.
- Limited options.
- Lower mileage.
- Higher dependency on imports.

Key takeaways

The scope of India's EV market growth rests on availability of capital for original equipment manufacturers, battery manufacturers, and charge point operators as well as improvements to infrastructure and diversified options for consumers.

Realizing India's EV ambition will also require an estimated annual battery capacity of 158 GWh by FY 2030, which provides huge investment opportunities for investors.

Report of IPCC "Climate Change 2021: The Physical Science Basis"

The report is an advance in the assessment of the current state of the climate system, how the climate is likely to respond to greenhouse gas (GHG) emissions in the near- and long-term future.

- The report underlines that the impacts of climate change are unequivocally of human origin.
- The world has already warmed by about 1.07 °C compared with pre-industrial times.

Observations

- The report categorically states that the observed increases in the atmospheric concentration of "well-mixed" greenhouse gases (i.e., carbon dioxide, methane and nitrous oxide).
- This increase in GHG concentrations has warmed the atmosphere, ocean and land, causing widespread and rapid changes in the climate system.

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- Owing to the increase in warming, extreme events (e.g., heat waves, heavy precipitation, droughts, tropical cyclones) have become more frequent and intense.
- Warming driven predominantly by CO₂ emissions, together with methane and nitrous oxide, is actually partially masked by aerosol cooling, the latter mainly from sulphur dioxide and organic carbon.

Impacts

- Close to 700 million people worldwide live along the coast and there continue to be plans to expand coastal cities. Therefore, understanding the risks involved from climate change and sea level rise in the 21st and 22nd centuries is crucial.
- Sea level rise will continue after emissions no longer increase, because oceans respond slowly to warming. The centennial-scale irreversibility of sea level rise has implications for the future even under the low emissions scenarios.

Reasons for sea level rise

- Expansion of warm ocean waters
- Melting of glaciers on land
- The melting of ice sheets in Greenland and Antarctica.

Current rate of rise

- Global mean sea level (GMSL) rose by 0.2m between 1901 and 2018.
- The average rate of sea level rise was 1.3 mm/year (1901-1971) and rose to 3.7 mm/year (2006-2018).
- While sea level rise in the last century was mainly due to thermal expansion, glacier and ice sheet melt are now big contributors.

Impact in different scenarios

- In the low emissions scenario: GMSL is expected to be 0.19m in 2050 and 0.44m by 2100.
- In the very high emissions scenario: GMSL is expected to be about 0.23m in 2050 and 0.77m in 2100.

Vulnerability in India

- Vulnerable Communities: Communities along the coast in India are vulnerable to sea level rise and storms, which will become more intense and frequent.
- Storm surges & Flooding: They will be accompanied by storm surges, heavy rain and flooding. Even the 0.1m to 0.2m rise expected along India in the next few decades can cause frequent coastal flooding. A speculator might think that if less than a metre sea level rise by 2100 is the likely scenario, they have another 60-80 years to continue developing infrastructure along the coast.

Way Forward

- More studies are needed to be done to assess the impact.
- Adaptation to sea level rise must include a range of measures, along with coastal regulation, which should be stricter, not laxer, as it has become with each update of the Coastal Regulation Zone.



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