



www.iasgateway.com

PIB

JULY - 2021

INDEX

1. INDIAN SOCIETY & POLITY

1. Gender self-identification and related Issues	05
2. The power of scrutiny	06
3. Kongu Nadu region of Tamil Nadu	07
4. The upcoming crisis in Indian federalism	08
5. Sedition Law and its discontents	10
6. The Caste Census Debate	12
7. Telangana's Rudreswara Temple inscribed as a World Heritage Site	13

2. GOVERNANCE

1. One Nation One Ration Card (ONORC)	15
2. Draft Anti-trafficking Bill 2021	17
3. NIPUN Bharat Programme	18
4. Issues with making welfare conditional	19
5. Updated draft Drone Rules, 2021	21
6. Addressing the issues of undertrials	22
7. Lokpal yet to get director of inquiry	23
8. Surveillance reform is the need of the hour	24
9. Assam-Mizoram Boundary Dispute	26
10. Telangana's Dalit Bandhu Scheme	27
11. Academic Bank of Credit	28
12. NEET's All India Quota, and OBC & EWS reservation	29

3. SCIENCE & TECHNOLOGY

1. Gamma Ray Burst (GRB) Explosion	31
2. New source of gravitational waves detected	31
3. Richard Branson takes off first in space tourism race'	32
4. Karman line	33
5. Coronavirus variants infecting at a same time	34
6. Near-Earth Asteroid Scout Mission	34
7. What is Monkey B virus?	36
8. Geo-imaging satellite EOS-03	37

4. ECONOMY

1. Four years of GST Regime	38
2. Telecom Duopoly	39
3. NATRAX	41
4. Heat pumps	41
5. Anti-methanogenic feed supplement 'Harit Dhara'	42
6. Export of GI certified Bhalia Wheat	44
7. Authorised Economic Operators	44
8. India's First LNG Facility Plant	45
9. SEBI needs to adopt dual approval system for independent directors	46
10. Curbs on Mastercard	47
11. Bad Bank launched for stressed assets	48
12. One District One Focus Product Scheme	49
13. Periodic Labour Force Survey (2019 -2020)	50
14. Essential Defence Services Bill, 2021	51
15. National Farmers Database	52

5. GEOGRAPHY & ENVIRONMENT

1. Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition	54
2. Heat Dome	55
3. Arctic's 'Last Ice Area'	56
4. Lemru Elephant reserve	57
5. What is Gross Environment Product?	58
6. 14 Indian Tiger Reserves get Global CA/TS recognition	59
7. Centre launches Secured Logistics Document Exchange (SLDE) and GHG	61

6. INTERNATIONAL RELATIONS

1. India flags 'green pass' issue	63
2. OECD-G20 Inclusive Framework Tax Deal	64
3. Crafting a unique partnership with Africa	65
4. Vatican embezzlement trials	68

-
- | | |
|---|----|
| 5. Strategic cooperation between India, Italy and Japan can ensure a free | 68 |
| 6. India's Afghan investment | 70 |
| 7. China's role in stabilising Afghanistan | 73 |
| 8. The case for reviving SAARC | 74 |

7. INTERNAL SECURITY & DISASTER MANAGEMENT

- | | |
|---|----|
| 1. Getting India's Military Jointness formula right | 76 |
| 2. Cloudbursts | 77 |



1. INDIAN SOCIETY & POLITY

1. Gender self-identification and related issues

Why in News?

- The Spanish government has approved the first draft of a bill that would allow anyone over the age of 14 to legally change gender without a medical diagnosis or hormone therapy.

What is Gender self-identification?

- Self-identification, or 'self-id', is the concept that a person should be allowed to legally identify with the gender of their choice by simply declaring so, and without facing any medical tests.
- This has been a long-held demand of trans-right groups around the world, including in India, as prejudice against trans people remains rampant.

European Scenario

- In Europe, this issue has remained divisive not only on liberal-conservative lines but also within the LGBT community.
- The current processes for declaring one's desired gender are lengthy, expensive and degrading.

Related Issues

- Some feminist and gay-rights groups insist that such a law could endanger women and cause more gay teenagers to be told that they might be trans and thus encouraged towards hormones and surgery.
- Feminist forums believe that sex is not something that can be chosen.
- They insist that allowing self-identification could put at risk all laws that specifically prevent discrimination against women.
- They have instead asked lawmakers to look at concerns that they say are more pressing, such as the gender pay gap.

What is the Process for declaring one's Desired Sex in India?

- In India, the rights of transgender persons are governed by the Transgender Persons (Protection of Rights) Act, 2019 and the Transgender Persons (Protection of Rights) Rules, 2020.
- Under the Rules, an application to declare gender is to be made to the District Magistrate.
- Parents can also make an application on behalf of their child.

- A much-criticized previous draft of regulations required transgender persons to go through a medical examination for declaring their desired sex. This requirement was omitted in the Final Rules. As per the Rules, state governments have also been directed to constitute welfare boards for transgender persons to protect their rights and interests, and facilitate access to schemes and welfare measures framed by the Centre.

2. The Power of scrutiny

Why in News?

- The Supreme Court of India has upheld the authority of a committee of the Delhi Assembly to summon a senior official of Facebook.

Highlights:

- Facebook's India vice-president was repeatedly summoned by the Delhi Assembly's Committee on Peace and Harmony on the subject of the Delhi riots of 2020.
- Facebook had argued before the Supreme Court that this was a case of overreach given that Delhi's law and order came under the central government and also because Facebook was governed by the IT Act of Parliament on which the State government has no power.
- Despite the constraints of the powers of the Delhi Assembly on the subject of law and order, the Court found that its committee still could summon the Facebook India official without encroaching upon the turf of the Centre.

Significance:

Recognition of the power of state assemblies:

- The judgement is an extremely nuanced recognition of the extent of powers of State Assemblies in matters regulated by an Act of Parliament.

Role to be played by state assemblies:

- The Supreme Court ruling supports the notion that an assembly should not be restricted to the passage of new laws but could also play an important role in other aspects of governance as well. The SC judgement held that the "inquisitorial" and "recommendatory" powers of a House can be used for better Governance.

Recognition of the Risk Posed by unregulated social media operations:

- Recognizing the potential risk associated with the spread of misinformation on social media, the Court has rightly recognized the impact of social media on law and order, a subject matter which ultimately affects the governance of States. The judgment could pave the way for scrutiny of social media platforms by other States.

3. Kongu Nadu region of Tamil Nadu

Why in News?

- A list of new Union Cabinet ministers issued has triggered a debate in political circles in Tamil Nadu, as well as on social media, by referring to ‘Kongu Nadu’, the informal name for a region in the western part of the state.

Where is Kongu Nadu?

- ‘Kongu Nadu’ is neither a place with a PIN code nor a name given formally to any region.
- It is a commonly used name for part of western Tamil Nadu.
- In Tamil literature, it was referred to as one of the five regions of ancient Tamil Nadu.
- There were mentions of ‘Kongu Nadu’ in Sangam literature as a separate territory.
- The name derives from Kongu Vellala Gounder, an OBC community with a significant presence in these districts.
- The region includes prominent businesses and industrial hubs at Namakkal, Salem, Tirupur and Coimbatore.
- Is there any ground for the allegations about a planned bifurcation?
- Unlike Telangana or Uttarakhand, there has never been demand or discussions about a separate Kongu Nadu in the modern political history of Tamil Nadu.
- The debate, therefore, lacks any political or social context.

Sangam Age:

- The ‘Sangam’ describes a period from the sixth century BC to the third century AD encompassing today’s Tamil Nadu, Kerala, the southern parts of Karnataka and Andhra Pradesh, and northern Sri Lanka.
- The Tamil Sangams or Cankams were assemblies of Tamil scholars and poets that, according to traditional Tamil accounts, occurred in the remote past.
- It is named for scholarly congregations in and around the city of Madurai, located about 400 km southwest of Chennai.
- It generally refers to a collection of poems, composed by Tamil poets, both men and women developed in the ancient Southern state of India.
- It mostly deals with emotional and material topics such as love, war, governance, trade and bereavement.

4. The upcoming crisis in Indian federalism

Why in News?

- In the light of the upcoming delimitation exercise scheduled for 2026, the article analyzes the possible repercussions of the exercise and suggests certain measures which can help India counter the possible challenges to its unity and integrity.

Delimitation:

- Delimitation is the act of redrawing boundaries of Lok Sabha and Assembly seats to represent changes in population. The objective is to provide equal representation for equal population segments, and a fair division of geographical areas.

Delimitation exercises in India:

- Delimitation is done on the basis of the preceding Census. The first such exercise in 1950-51 was carried out by the President, with the help of the Election Commission. Following the Delimitation Commission Act in 1952, all such exercises have been conducted by Delimitation Commissions. Delimitation commissions have been set up four times in the past — 1952, 1962, 1972 and 2002 — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002.
- For more information on delimitation commission refer to the following article:

Delimitation Commission:

- There was no delimitation after the 1981 and 1991 Censuses. Amid fears that states that took little interest in population control could end up with more seats in Parliament, while the southern states that promoted family planning could end up with fewer seats, the Constitution was amended in 1976 to suspend delimitation until 2001.
- Another amendment extended the freeze on the number of seats in the Parliament until 2026, by when the country was projected to achieve a uniform population growth rate.

Concerns:

- The upcoming delimitation faces the tough task of balancing the inherent contradiction between the principles of democracy and federalism.
- Lack of democratic principle:
- Since 1976, seats in the Lok Sabha have reflected the 1971 census and have not taken into account changes in the population. This had led to wide discrepancies in the size of constituencies, with the largest having over three million electors, and the smallest less than 50,000.

- This goes against the democratic ideal of “one person, one vote, one value”.

Concerns over Federal Principle:

- The delimitation exercise would lead to a dramatic change in the composition of the Lok Sabha.
- There has been unequal population growth among States. India’s highly developed States have been successful at family planning, while the poorer States continue to grow in terms of population. These states with a large population could gain if the delimitation exercise were to take place in 2026 while India’s most successful States could land in a disadvantageous position politically.
- This could further accentuate the existing imbalance of power between the big and small states in India. Bigger States are likely to dominate the national conversation over smaller States.
- This would generate much resentment among the States that will lose political and economic power and influence.

Recommendations:

- The article notes that extending the freeze on delimitation exercise would only push the issue forward and not help resolve the issue at hand but also perpetuate the increasingly undemocratic setup.
- In this regard, the article suggests going ahead with the delimitation exercise while at the same time taking appropriate measures to assuage the legitimate fear of the smaller states.
- The following changes could be incorporated into the governing structures of Indian federalism in this direction.
- The powers of States vis-à-vis the Centre contained in the schedule 7 lists and in the provisions dealing with altering boundaries of States must be increased to assuage the fear of smaller States that they will be dominated by bigger ones.
- The role and composition of the Rajya Sabha (House of States) must be expanded. This would provide a great say for the states.
- Important governance aspects such as constitutional amendments and the change in financial redistribution between the States must require the consent of all or nearly all States. Important aspects should be implemented only by unanimity or at least a super majority and not a simple majority.
- The article suggests breaking up the biggest States into smaller units that will not by themselves dominate the national conversation.

- The article suggests also adopting certain measures from other federations, such as the United States, Switzerland and Belgium to empower the constituent states in the federation irrespective of their sizes.

5. Sedition Law and its discontents

Why in News?

- The CJI is now convinced that sedition law (IPC 124A) is being misused by the authorities to trample upon citizens' fundamental rights of free speech and liberty.

What does Section 124A of the IPC say?

- The section deals with the offence of sedition, a term that covers speech or writing, or any form of visible representation, which brings the government into hatred or contempt, or excites disaffection towards the government, or attempts to do so.
- It is punishable with three years in prison or a life term.
- “Disaffection”, it says, includes disloyalty and feelings of enmity.
- However, it also says expressing disapproval of government measures or actions, with a view to getting them changed by lawful means, without promoting hatred or disaffection or contempt towards the government will not come under this section.

What is its Origin?

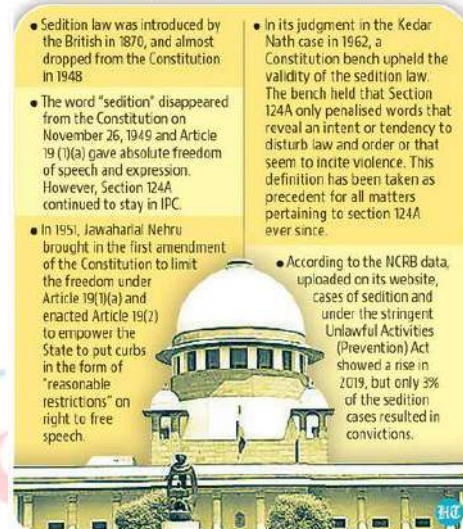
- Colonial past: Sedition was introduced in the penal code in 1870, a decade after the Indian Penal Code came into force.
- It was a colonial law directed against strong criticism of the British administration.
- Putting curb on Freedom fighters: Its most famous victims included Bal Gangadhar Tilak and Mahatma Gandhi.
- Gandhi called it “the prince among the political sections of the IPC designed to suppress the liberty of the citizen”.

Is it Constitutionally Valid?

- Violative of FRs: Two high courts had found it unconstitutional after Independence, as it violated the freedom of speech and expression.

Contentious history

Section 124 A of the IPC penalises sedition as punishable with either imprisonment ranging from 3 yrs to a lifetime, a fine, or both



- Sedition law was introduced by the British in 1870, and almost dropped from the Constitution in 1948.
- The word "sedition" disappeared from the Constitution on November 26, 1949 and Article 19 (1)(a) gave absolute freedom of speech and expression. However, Section 124A continued to stay in IPC.
- In 1951, Jawaharlal Nehru brought in the first amendment of the Constitution to limit the freedom under Article 19(1)(a) and enacted Article 19(2) to empower the State to put curbs in the form of "reasonable restrictions" on right to free speech.
- In its judgment in the Kedar Nath case in 1962, a Constitution bench upheld the validity of the sedition law. The bench held that Section 124A only penalised words that reveal an intent or tendency to disturb law and order or that seem to incite violence. This definition has been taken as precedent for all matters pertaining to section 124A ever since.
- According to the NCRB data, uploaded on its website, cases of sedition and under the stringent Unlawful Activities (Prevention) Act showed a rise in 2019, but only 3% of the sedition cases resulted in convictions.

- **Reasonable Restrictions:** The Constitution was amended to include ‘public order’ as one of the ‘reasonable restrictions’ on which free speech could be abridged by law.
- **Kedar Nath Case:** Thereafter, the Supreme Court, in Kedar Nath Singh v. State of Bihar (1962) upheld its validity.
- At the same time, it limited its application to acts that involve “intention or tendency to create disorder” or incitement to violence.
- Thus, even strongly worded remarks, as long as they do not excite disloyalty and enmity, or incite violence, are not an offence under this section.

Why the Controversy Now?

- **Frequent Use:** In recent times, the resort to this section is seen as disturbingly frequent.
- **Curbing Dissent:** Activists, cartoonists and intellectuals have been arrested under this section, drawing criticism from liberals that it is being used to suppress dissent and silence critics.
- **Misuse for propaganda:** Authorities and the police who invoke this section defend the measure as a necessary step to prevent public disorder and anti-national activities.
- **Irrelevance:** Many of them have also been detained under the National Security Act and UAPA.

What is being Debated About It?

- Liberals and rights activists have been demanding the scrapping of Section 124A.
- It is argued that the provision is “overbroad”, i.e., it defines the offence in wide terms threatening the liberty of citizens.
- The Law Commission has also called for a reconsideration of the section.
- It has pointed that Britain abolished it more than a decade ago and raised the question of whether a provision introduced by the British to put down the freedom struggle should continue to be law in India.
- Some argue that a presumption of constitutionality does not apply to pre-constitutional laws as those laws have been made by foreign legislature or bodies.

What has the Apex Court Observed?

- Justice D.Y. Chandrachud had flagged the indiscriminate use of the sedition law against people who aired their grievances about the government’s COVID management.
- People have been charged even for seeking help to gain medical access, equipment, drugs and oxygen cylinders, especially during the second wave of the pandemic.

- Justice U.U. Lalit, in his recent judgment, quashed a sedition case against a person for his alleged remarks about the PM and the Union Government.

Way Forward:

- The time is long past when the mere criticism of governments was sufficient to constitute sedition.
- The right to utter honest and reasonable criticism is a source of strength to a community rather than a weakness, the CJI has recorded.

6. The Caste Census Debate

- The Ministry of Home Affairs has informed that it was decided as a matter of policy not to enumerate caste-wise population other than SCs and STs in Census.

What kind of caste Data is published in the Census?

- Every Census in independent India from 1951 to 2011 has published data on Scheduled Castes and Scheduled Tribes, but not on other castes.
- Before that, every Census until 1931 had data on caste.
- However, in 1941, caste-based data was collected but not published.

Why is there a Demand for Caste Census?

- In the absence of such a census, there is no proper estimate for the population of OBCs, various groups within the OBCs, and others.
- The Mandal Commission estimated the OBC population at 52%, some other estimates have been based on National Sample Survey data.
- Some political parties make their own estimates in states and Lok Sabha and Assembly seats during elections.

How often has the Demand for a Caste Census been Made?

- It comes up before almost every Census, as records of debates and questions raised in Parliament show.
- The demand usually come from among those belonging to Other Backward Classes (OBC) and other deprived sections, while sections from the upper castes oppose the idea.
- On April 1, the constitutional body National Commission for Backward Classes urged the government to collect data on the population of OBCs “as part of Census of India 2021 exercise”.

Need for Caste Census:

- There is a central list of OBCs and a State-specific list of OBCs.
- Some states do not have a list of OBCs; some States have a list of OBCs and a sub-set called Most Backward Classes.
- There are certain open-ended categories in the lists such as orphans and destitute children.
- Names of some castes are found in both the list of Scheduled Castes and the list of OBCs.
- Scheduled Castes converted to Christianity or Islam are also treated differently in different States.
- The status of a migrant from one State to another and the status of children of inter-caste marriage, in terms of caste classification, are also vexed questions.”

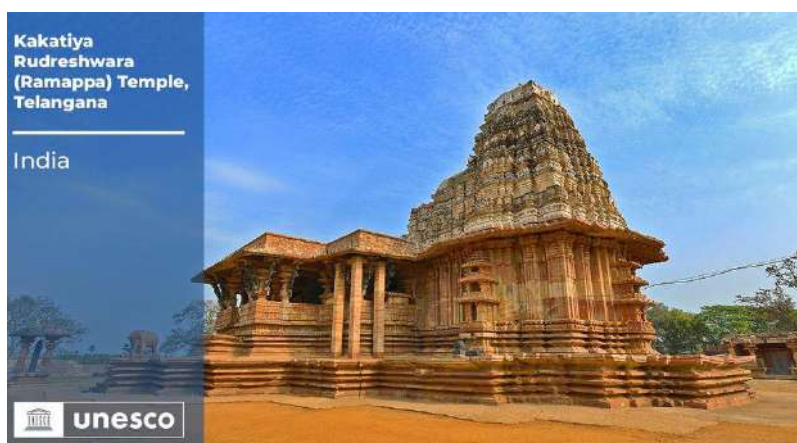
Census of India:

- The decennial Census of India has been conducted 15 times, as of 2011.
- While it has been undertaken every 10 years, beginning in 1872 under British Viceroy Lord Mayo, the first complete census was taken in 1881.
- Post-1949, it has been conducted by the Registrar General and Census Commissioner of India under the Ministry of Home Affairs, Government of India.
- All the censuses since 1951 were conducted under the 1948 Census of India Act.
- The last census was held in 2011, whilst the next was scheduled to be held in 2021.

7. Telangana's Rudreswara Temple inscribed as a World Heritage Site

Why in News?

- India's nomination of Rudreswara Temple, (also known as the Ramappa Temple) at Palampet, Mulugu district, near Warangal in the state of Telangana has been inscribed on UNESCO's World Heritage list. This would be the 39th site in India.



Rudreswara Temple:

- The Rudreswara temple was constructed in 1213 AD during the reign of the Kakatiya Empire by Recharla Rudra, a general of Kakatiya king Ganapati Deva.
- It is also known as the Ramappa temple, after the sculptor who executed the work in the temple for 40 years.
- The main temple is flanked by the collapsed structures of the Kateshwarayya and Kameshwarayya temples in Palampet, about 220 km from Hyderabad.
- An inscription dates the temple to 1135 Samvat-Saka on the eight day of Magha (January 12, 1214).

Its Architecture:

- The temple, known for its exquisite craftsmanship and delicate relief work, is savvy blend of technical know-how and materials of its time.
- The foundation is built with the “sandbox technique”, the flooring is granite and the pillars basalt.
- The lower part of the temple is red sandstone while the white gopuram is built with light bricks that reportedly float on water.
- The temple complexes of Kakatias have a distinct style, technology and decoration exhibiting the influence of the Kakatiyan sculptor.
- The temple stands on a 6 feet high star-shaped platform with walls, pillars and ceilings adorned with intricate carvings that attest to the unique skill of the Kakatiyan sculptors.
- European merchants and travelers were mesmerized by the beauty of the temple and one such traveler had remarked that the temple was the “brightest star in the galaxy of medieval temples of the Deccan”.

Surviving through ages:

- According to the temple priest, some of the iconography on the temple was damaged during the invasion of Malik Kafur in 1310.
- Treasure hunters vandalized the rest
- But the biggest test for the temple was an earthquake in the 17th century (one of the biggest was that of 7.7-8.2-magnitude on June 16, 1819).

2. GOVERNANCE

1. One Nation One Ration Card (ONORC)

Why in News?

- The Supreme Court directed all states and UTs to implement the One Nation, One Ration Card (ONORC) system, which allows for inter-and intra-state portability, by July 31.

ONORC Scheme:

- The ONORC scheme is aimed at enabling migrant workers and their family members to buy subsidized ration from any fair price shop anywhere in the country under the National Food Security Act, 2013.
- For instance, a migrant worker from will be able to access PDS benefits elsewhere in India, where he or she may have gone in search of work.
- While the person can buy food grains as per his or her entitlement under the NFSA at the place where he or she is based, members of his or her family can still go to their ration dealer back home.
- To promote this reform in the archaic Public Distribution System (PDS), the government has provided incentives to states.

How does ONORC Work?

- ONORC is based on technology that involves details of beneficiaries' ration card, Aadhaar number, and electronic Points of Sale (ePoS).
- The system identifies a beneficiary through biometric authentication on ePoS devices at fair price shops.
- The system runs with the support of two portals —Integrated Management of Public Distribution System (IM-PDS) (impds.nic.in) and Annavitran (annavitran.nic.in), which host all the relevant data.
- When a ration card holder goes to a fair price shop, he or she identifies himself or herself through biometric authentication on ePoS, which is matched real time with details on the Annavitran portal.
- Once the ration card details are verified, the dealer hands out the beneficiary's entitlements.
- While the Annavitran portal maintains a record of intra-state transactions — inter-district and intra-district — the IM-PDS portal records the inter-state transactions.

How many People will it Benefit?

- Under the National Food Security Act, 2013, about 81 crore people are entitled to buy subsidised foodgrains — rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Re 1/kg — from designated fair price shops.
- As on 28 June 2021, there are about 5.46 lakh fair price shops and 23.63 crore ration cardholders across the country.
- Each NFSA ration cardholder is assigned to a fair price shop near the place where his ration card is registered.

What factors led to the Launch of ONORC?

- Earlier, NFSA beneficiaries were not able to access their PDS benefits outside the jurisdiction of the specific fair price shop to which they have been assigned.
- The government envisioned the ONORC to give them access to benefits from any fair price shop.
- The idea was to reform the PDS, which has been historically marred by inefficiency and leakages.
- ONORC was initially launched as an inter-state pilot.
- When the Covid-19 pandemic forced thousands of migrant workers to return to their villages last year, a need was felt to expedite the rollout.

What has been the Coverage so far?

- Till date, 32 states and Union Territories have joined the ONORC, covering about 69 crore NFSA beneficiaries.
- About 1.35 crore portability transactions every month are being recorded under ONORC on an average.
- While inter-state ration card portability is available in 32 states, the number of such transactions is much lower than that of intra-district and inter-district transactions.

States not Joining:

- Four states are yet to join the scheme — Assam, Chhattisgarh, Delhi and West Bengal. There are various reasons. For instance, Delhi is yet to start the use of ePoS in fair price shops, which is a prerequisite for the implementation of ONORC.
- In the case of West Bengal, the state government has demanded that the non-NFSA ration cardholders — ration cards issued by the state government — should also be covered under the ONORC.

2. Draft Anti-trafficking Bill 2021

Why in News?

- The Ministry of Women and Child Welfare has invited suggestions and comments for its Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021 which it has released.

A re-attempted legislation:

- A previous draft had been introduced in 2018 and had been passed by Lok Sabha despite stiff opposition from both parliamentarians as well as experts. It was later never introduced in Rajya Sabha. Experts say that nearly all the concerns raised in 2018 have been addressed in this new draft Bill.

Draft Anti-trafficking Bill 2021

- The Bill has increased the scope of the nature of offences of trafficking as well as the kind of victims of these offences, with stringent penalties including life imprisonment, and even the death penalty in cases of an extreme nature.

Types of Offenders:

- The scope of the Bill vis offenders will also include defence personnel and government servants, doctors and paramedical staff or anyone in a position of authority.

Penalty:

- In most cases of child trafficking, especially in the case of the trafficking of more than one child, the penalty is now life imprisonment.
- While the penalty will hold a minimum of seven years which can go up to an imprisonment of 10 years and a fine of Rs 5 lakh.
- In certain cases, even the death penalty can be sought.

Definition of Exploitation:

- Exploitation has been defined to include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation including pornography.
- It also includes any act of physical exploitation, forced labour or services, slavery or practices similar to slavery, servitude or forced removal of organs, illegal clinical drug trials or illegal bio-medical research.

Victims Covered:

- The Bill also extends beyond the protection of women and children as victims to now include transgenders as well as any person who may be a victim of trafficking.

- It also does away with the provision that a victim necessarily needs to be transported from one place to another to be defined as a victim.

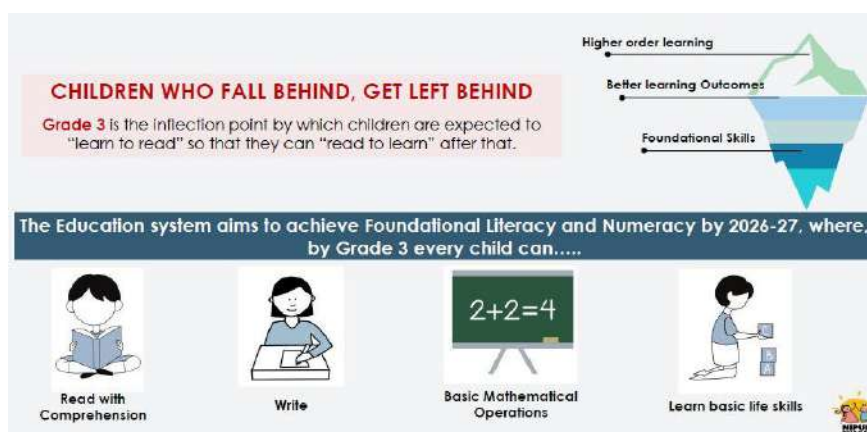
Investigation Agency

- The National Investigation Agency (NIA) shall act as the national investigating and coordinating agency responsible for the prevention and combating of trafficking in persons.

3. NIPUN Bharat Programme

Why in News?

- Union Minister for Education has launched a National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat).



NIPUN Bharat:

- This scheme aims for ensuring that every child in the country necessarily attains foundational literacy.
- It has been launched under the aegis of the centrally sponsored scheme of Samagra Shiksha.
- It would cover the learning needs of children in the age group of 3 to 9 years.
- The unique feature is that the goals of the Mission are set in the form of Lakshya Soochi or Targets for Foundational Literacy and Numeracy.
- The Lakshyas are based on the learning outcomes developed by the NCERT and international research and ORF studies.

Envisaged Outcomes:

- Foundational skills enable to keep children in class thereby reducing the dropouts and improve transition rate from primary to upper primary and secondary stages.

- Activity-based learning and a conducive learning environment will improve the quality of education.
- Innovative pedagogies such as toy-based and experiential learning will be used in classroom transactions thereby making learning a joyful and engaging activity.
- Intensive capacity building of teachers
- Since almost every child attends early grades, therefore, focus at that stage will also benefit the socio-economic disadvantageous group thus ensuring access to equitable and inclusive quality education.

4. Issues with making Welfare Conditional

Why in News?

- Recently, the government of Uttar Pradesh released a “Population Policy” in which it stated its intention to bring the gross fertility rate in the State down from the existing 2.7 to 2.1 by 2026.

Provisions in the Bill:

- This draft law, titled the Uttar Pradesh Population (Control, Stabilisation and Welfare) Bill, 2021, seeks to provide not only a series of incentives to families that adhere to a two-child norm. The Bill also intends on disentitling families that breach the norm from benefits and subsidies.
- It promises public servants who undergo sterilisation and adopt a two-child norm several benefits. The draft Bill also contains a list of punishments.
- A person who breaches the two-child norm will be debarred from securing the benefit of any government-sponsored welfare scheme and will be disqualified from applying to any State government job.
- Existing government employees who infringe the rule will be denied the benefit of promotion. Transgressing individuals will be prohibited from contesting elections to local authorities and bodies.

Issues with coercive population control policies

1) Counter-productive measure:

- ✓ Through an affidavit filed in court, the central government argued that “international experience shows that any coercion to have a certain number of children is counter-productive and leads to demographic distortions”.

2) Against international obligations:

- ✓ India is committed to its obligations under international law, including the principles contained in the International Conference on Population and Development Programme of Action, 1994.
- ✓ Foremost in those principles was a pledge from nations that they would look beyond demographic targets and focus instead on guaranteeing a right to reproductive freedom.

3) Against right to reproductive freedom and privacy:

- ✓ In *Suchita Srivastava & Anr vs Chandigarh Administration* (2009), the Court found that a woman's freedom to make reproductive decisions is an integral facet of the right to personal liberty guaranteed by Article 21.
- ✓ This ruling was endorsed by the Supreme Court's nine-judge Bench verdict in *K.S. Puttaswamy vs Union of India* (2017).
- ✓ A reading of the plurality of opinions there shows us that the Constitution sees a person's autonomy over her body as an extension of the right to privacy.
- ✓ A simple reading of U.P.'s draft law will show us that, if enacted, it will grossly impinge on the right to reproductive freedom.
- ✓ However, In *Javed & Ors vs State of Haryana & Ors* (2003), the Court upheld a law that disqualified persons with more than two children from contesting in local body elections.
- ✓ But the present UP Bill is far more disproportionate, therefore, the judgment in *Javed* can no longer be seen as good law.
- ✓ The UP government will likely argue that there is no violation of privacy here because any decision on sterilisation would be voluntary.
- ✓ But, as we ought to by now know, making welfare conditional is a hallmark of coercion.
- ✓ Therefore, the proposed law will fall foul of a proportionality analysis.

4) Negative consequences:

- ✓ An already skewed sex ratio may be compounded by families aborting a daughter in the hope of having a son with a view to conforming to the two-child norm.
- ✓ The law could also lead to a proliferation in sterilisation camps, a practice that the Supreme Court has previously deprecated.
- ✓ In *Devika Biswas vs Union of India* (2016), the Court pointed to how these camps invariably have a disparate impact on minorities and other vulnerable groups.

Way Forward:

- Experiences from other States in India show us that there are more efficacious and alternative measures available to control the growth of population, including processes aimed at improving Public Health and access to Education.

5. Updated draft Drone Rules, 2021

Why in News?

- The Ministry of Civil Aviation (MoCA) on July 15, 2021, issued the updated draft Drone Rules, 2021, for public consultation. The updated draft Drone Rules will replace the Unmanned Aircraft System (UAS) Rules, 2021, that were issued on March 12, 2021.
- The last date for public consultation on the draft Drone Rules, 2021, is August 5, 2021.
- As per the updated draft Drone Rules, 2021, drones without unique identification number will not be allowed to be operated, unless exempted. Drone operators will be required to generate a unique identification number of a drone on the Digital Sky platform.

What is Digital Sky Platform?

- Digital Sky platform is an initiative by the Ministry of Civil Aviation (MoCA) that offers a secure and scalable platform to support drone technology frameworks such as NPNT (No Permission, No Take-off), provide flight permission digitally, and manage unmanned aircraft operations and traffic in an efficient manner.
- The platform will be developed as a business-friendly single-window online system. Most flight permissions will be self-generated with minimal human interference.

Drone Rules, 2021:

- The draft Drone Rules, 2021, will replace the Unmanned Aircraft System (UAS) Rules, 2021, which were issued on March 12, 2021.
- The draft Drone Rules, 2021, will offer safety features such as geo-fencing, real-time tracking beacon. A six-month lead time will be given for compliance.
- The draft Drone Rules, 2021, will provide an interactive airspace map with yellow, green, and red zones that will be displayed on the Digital Sky platform. The yellow zone has been reduced from 45 km to 12 km from the nearby airport perimeter. In the green zone, no flight permission will be required up to 400 ft and up to 200 ft in the area between 8 and 12 km from the airport perimeter.
- There is no requirement for a pilot licence for operating micro drones for non-commercial use, nano drones, or any research & development organizations operating such drones.

- Foreign-owned companies registered in India will not be restricted from operating drones.
- DGFT will regulate the import of drones and drone components.
- Security clearance will not be required before licence issuance or registration.
- Research and Development entities will not be required to generate certificates of airworthiness, remote pilot licence, prior permission, and unique identification number.

Significance:

- The incident at the Jammu Air Force Station has put focus on security and safety risks associated with drone operations. The updated draft Drone Rules, 2021, will facilitate investments in drone technology in India. This aids in simplifying the process of registration.
- Further, abolishment of restrictive practices and stringent licence regime for UAS by the government offers flexibility to players in the sectors. An airspace map on the digital sky platform provides access to real-time updates for drone operation in various zones.

6. Addressing the issues of undertrials

Why in News?

- After the death of Stan Swamy, questions about the conditions of jails and treatment of the incarcerated have been raised anew.

Issue of Deaths of Prisoners:

- The National Crime Records Bureau data reports the death of over 1,800 prisoners in the year 2018.
- An estimated 70 per cent of prison inmates are undertrials, so it can be safely assumed that a large percentage of those dying in prison are not convicted of any offence.
- Despite the promise of Article 21, that no person shall be denied life or liberty except by the due process of law, the NCRB data reveals that the number of those dying in prison as they await their trials is only going up.

How Prisoners are Subjected to Additional Torture:

- Overcrowding, delayed medical attention, unhygienic conditions and malnutrition exist in all Indian prisons. Given that incarcerated people are unable to access medical facilities and healthy food, it is the responsibility of the State and the judiciary to ensure that they are only deprived of their liberty and are not exposed to any additional torture in the form of medical deprivation, unhygienic conditions, bad or inadequate food etc.

- Yet, thousands are dying every year and the prison authorities are not made accountable.

Way Forward:

- Acts of extreme neglect that could result in the death of inmates should be acknowledged as extrajudicial torture and made an offence.
- The Constitutional Bench judgment in Sunil Batra (I) v. Delhi Administration (1978), held that “the humane thread of jail jurisprudence that runs right through is that no prison authority enjoys amnesty for unconstitutionality”.
- This judgment has been followed by several similar judgments by various high courts for the improvement of prison conditions.
- The collective interest of the community is not best served by subjecting undertrials to torturous and medieval prison conditions.
- The collective interest of the community also demands an introspection by the judicial institution on whether it is really in the public interest to make jail the rule and bail the exception.

7. Lokpal yet to get director of inquiry

Why in News?

- More than two years after the Lokpal came into being, the Centre is yet to appoint a director of inquiry for conducting a preliminary inquiry into graft complaints sent by the anti-corruption ombudsman.

Who is ‘Director of Inquiry’?

- According to the Lokpal and Lokayuktas Act, 2013, there shall be a director of inquiry, not below the rank of Joint Secretary to the GoI.
- He/ She shall be appointed by the Central government for conducting preliminary inquiries referred to the Central Vigilance Commission (CVC) by the Lokpal.

The Lokpal:

- The Lokpal, the apex body to inquire and investigate graft complaints against public functionaries, came into being with the appointment of its chairperson and members in March 2019.
- In March 2019, former SC judge Justice Pinaki Chandra Ghose was selected as the first head of the Lokpal.
- Lokpal and Lokayuktas Act, 2013

- The Lokpal Act 2013 is anti-corruption legislation that seeks to provide for the establishment of the institution of Lokpal.
- It seeks to inquire into allegations of corruption against certain important public functionaries including the PM, cabinet ministers, MPs, Group A officials of the Central Government etc.
- The Bill was introduced in the parliament following massive public protests led by anti-corruption crusader Anna Hazare and his associates.
- The Bill is one of the most widely discussed and debated Bills in India in recent times.

Its history:

- The term Lokpal was coined in 1963 by Laxmi Mall Singhvi, a member of parliament during a parliamentary debate about grievance mechanisms.
- The Administrative Reforms Commission (ARC) headed by Morarji Desai submitted an interim report on “Problems of Redressal of Citizen’s Grievances” in 1966.
- In this report, ARC recommended the creation of two special authorities designated as ‘Lokpal’ and ‘Lokayukta’ for redress of citizens’ grievances.
- Maharashtra was the first state to introduce Lokayukta through The Maharashtra Lokayukta and Upa-Lokayuktas Act in 1971.

8. Surveillance reform is the need of the hour

Why in News?

- The ‘Pegasus Project’ report says that over “300 verified Indian mobile telephone numbers, including those used by ministers, opposition leaders, journalists, the legal community, businessmen, government officials, scientists, rights activists and others”, were targeted using spyware made by the Israeli firm, NSO Group.

Threat to Press Freedom:

- Revelations highlight a disturbing trend with regard to the use of hacking software against dissidents and adversaries.
- A significant number of Indians reportedly affected by Pegasus are journalists.
- This is not surprising since the World Press Freedom Index produced by Reporters Without Borders has ranked India 142 out of 180 countries in 2021.
- The press requires (and in democracies is afforded) greater protections on speech and privacy.

- Privacy and free speech are what Enable Good Reporting.
- This has been recognised in Supreme Court decisions.
- In the absence of privacy, the safety of journalists, especially those whose work criticises the government, and the personal safety of their sources is jeopardised.
- Such a lack of privacy, therefore, creates an aura of distrust around these journalists and effectively buries their credibility.

Issues with the Legal Provision:

- Provisions of law under the Indian Telegraph Act of 1885 and the Information Technology (IT) Act of 2000 are used by the government for its interception and monitoring activities.
- While the provisions of the Telegraph Act relate to telephone conversations, the IT Act relates to all communications undertaken using a computer resource.
- Both provisions are problematic and offer the government total opacity in respect of its interception and monitoring activities.
- Section 69 of the IT Act and the Interception Rules of 2009 are even more opaque than the Telegraph Act, and offer even weaker protections to the surveilled.
- No provision, however, allows the government to hack the phones of any individual since the hacking of computer resources, including mobile phones and apps, is a criminal offence under the IT Act.

Issues with Surveillance System:

- Surveillance itself, whether under a provision of law or without it, is a gross violation of the fundamental rights of citizens.
- Violation of freedom of speech: The very existence of a surveillance system impacts the right to privacy and the exercise of freedom of speech and personal liberty under Articles 19 and 21 of the Constitution, respectively.
- It prevents people from reading and exchanging unorthodox, controversial or provocative ideas. No scope for judicial scrutiny: There is also no scope for an individual subjected to surveillance to approach a court of law prior to or during or subsequent to acts of surveillance since the system itself is covert.
- No oversight: In the absence of parliamentary or judicial oversight, electronic surveillance gives the executive the power to influence both the subject of surveillance and all classes of individuals, resulting in a chilling effect on free speech.
- Against separation of power: Constitutional functionaries such as a sitting judge of the Supreme Court have reportedly been surveilled under Pegasus.

- Vesting such disproportionate power with one wing of the government threatens the separation of powers of the government.
- The existing provisions are insufficient to protect against the spread of authoritarianism since they allow the executive to exercise a disproportionate amount of power.

Way Forward:

- There needs to be oversight from another branch of the government.
- **Judicial oversight:** Only the judiciary can be competent to decide whether specific instances of surveillance are proportionate, whether less onerous alternatives are available, and to balance the necessity of the government's objectives with the rights of the impacted individuals.
- **Surveillance reforms:** Not only are existing protections weak but the proposed legislation related to the personal data protection of Indian citizens fails to consider surveillance while also providing wide exemptions to government authorities.
- Surveillance reform is the need of the hour in India.

9. SMILE Scheme for persons engaged in the act of begging

Why in News?

- The Ministry of Social Justice and Empowerment has formulated a scheme "SMILE – Support for Marginalized Individuals for Livelihood and Enterprise".

SMILE Scheme:

- This scheme is sub-scheme under the 'Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging'.
- It covers several comprehensive measures including welfare measures for persons who are engaged in the act of begging.
- The focus of the scheme is extensively on rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages and so on. The scheme would be implemented with the support of State/UT Governments/Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs), institutions and others. Scheme provides for the use of the existing shelter homes available with the State/UT Governments and Urban local bodies for rehabilitation of the persons engaged in the act of Begging.
- In case of non-availability of existing shelter homes, new dedicated shelter homes are to be set up by the implementing agencies.

10. Telangana's Dalit Bandhu Scheme

Why in News?

- Telangana CM has recently informed to spend Rs 80,000 crore to Rs 1 lakh crore for Dalit Bandhu Scheme, touted as the country's biggest direct benefit transfer scheme, to empower Dalits across the state.

Dalit Bandhu Scheme:

- Dalit Bandhu is the latest flagship programme of the Telangana government.
- It is envisioned as a welfare scheme for empowering Dalit families and enable entrepreneurship among them through a direct benefit transfer of Rs 10 lakh per family.
- This is, once implemented on the ground, going to be the biggest cash transfer scheme in the country. Apart from monetary assistance, the government plans to create a corpus called the Dalit Security Fund permanently to support the beneficiary in the event of any adversities. This fund will be managed by the district collector concerned, along with a committee of beneficiaries.
- The beneficiary would be issued an identity card with an electronic chip, which will help the government monitor the progress of the scheme.

Where is the scheme being Implemented?

- The CM decided to implement it on a pilot basis in the Huzurabad Assembly constituency.
- Based on the experiences of implementation in Huzurabad, the scheme will be rolled out across the state in a phased manner.
- Officials were asked to visit Dalit colonies and interact with Dalit families to find out their views and opinions before preparing guidelines for the scheme.
- The pilot project will focus on monitoring the implementation of the scheme, evaluating the results, and also creating a safety fund for the beneficiaries with the government's participation.

How is Dalitha Bandhu being implemented?

- The CM has ensured that the Dalit Bandhu is free.
- The governments in the past came out with some schemes and asked for bank guarantees.
- This is not a loan. There is no need to repay it. There is no chance of any middlemen in this.
- To promote Dalit entrepreneurship, the government has decided to start a system of reservation for Dalits in sectors where the government issues licences.

- The government will provide reservations for Dalits in issuing licenses for wine shops, medical shops, fertilizer shops, rice mills, etc.

11. Academic Bank of Credit

Why in News?

- On the first anniversary of the National Education Policy (NEP), the Centre plans to officially roll out some initiatives promised in the policy, such as the Academic Bank of Credit

Academic Bank of Credit:

- Academic Bank of Credit referred to as ABC is a virtual storehouse that will keep records of academic credits secured by a student.
- It is drafted on the lines of the National Academic Depository.
- It will function as a commercial bank where students will be the customers and ABC will offer several services to these students.
- Students will have to open an Academic Bank Account and every account holder would be provided with a unique id and Standard Operating Procedure (SOP).
- The academic accounts of students will have credits awarded by higher education Institutes to students for the courses they are pursuing.
- However, ABC will not accept any credit course document directly from the students, and its institutes that will make the deposits in students' accounts.

Functions of ABCs:

- ABC will be responsible for opening, closing, and validating the academic accounts of students. It will also perform tasks including credit verification, credit accumulation, credit transfer/redemption of students, and promotion of the ABC among the stakeholders.
- The courses will also include online and distance mode courses offered through National Schemes like SWAYAM, NPTEL, V-Lab etc.
- The validity of these academic credits earned by students will be up to seven years. The validity can also vary based on the subject or discipline. Students can redeem these credits.
- For instance, if a student has accumulated 100 credits which are equivalent to say one year and they decide to drop out.
- Once they decide to rejoin they can redeem this credit and seek admission directly in the second year at any university. The validity will be up to seven years, hence, students will have to rejoin within seven years.

Benefits for students:

- The participating HEIs in the ABC scheme will enable students to build their degrees as per their choices.
- As per UGC guidelines, the higher education institutes will have to allow students to acquire credits 50-70% of credits assigned to a degree from any institute.
- Students, depending upon their needs can take this opportunity.
- UGC will ensure that students secured the minimum credits to be secured in the core subject area.

12. NEET's All India Quota, and OBC & EWS reservation

Why in News?

- The Union government has approved reservations for the OBC and EWS (Economically Weaker Section) categories within the All India Quota (AIQ) for NEET, the uniform Entrance Examination for medical and Dental Colleges across the country.

What is NEET?

- The National Eligibility-cum-Entrance Test (NEET) is the entrance examination for entry to all undergraduate (NEET-UG) and postgraduate (NEET-PG) medical and dental courses in the country.
- Until 2016, the All India Pre-Medical Test (AIPMT) was the national-level entrance examination for medical colleges.
- State governments used to hold separate entrance tests for seats that were not contested at an all-India level.
- NEET was held for the first time in 2003, but discontinued the following year.
- On April 13, 2016, the Supreme Court upheld the newly inserted section 10-D of the Indian Medical Council Act. This provided for a uniform entrance examination to all medical educational institutions at the undergraduate level and postgraduate level in Hindi, English and various other languages.
- Since then, NEET has been the uniform entrance test for medical courses across the country.

What is the All-India Quota?

- Although the same examination is held across the country, a chunk of the seats in state medical/dental colleges is reserved for students domiciled in their respective states.

- The remaining seats —15% in UG and 50% in PG — are surrendered by the states to the All India Quota.
- The AIQ scheme was introduced in 1986 under the directions of the Supreme Court to provide for domicile-free, merit-based opportunities to students from any state to study in a good medical college in any other state.
- A student domiciled in Uttar Pradesh, for example, may be eligible for admission to a seat in a state government medical college in West Bengal, provided she scores high enough in the national merit list.
- If her score is not high enough for AIQ, she may still hope for admission under the state quota in her home state.
- In deemed/central universities, ESIC, and Armed Forces Medical College (AFMC), 100% seats are reserved under the AIQ.

What was the Reservation Policy Followed so far?

- Until 2007, no reservation was implemented within the All-India Quota for medical admission.
- On January 31, 2007, in *Abhay Nath v University of Delhi and Others*, the Supreme Court directed that reservation of 15% for Scheduled Castes and 7.5% for Scheduled Tribes be introduced in the AIQ.
- The same year, the government passed the Central Educational Institutions (Reservation in Admission) Act, 2007 providing for 27% reservation to OBC students in central government institutions.
- While state government medical and dental colleges provide reservations to OBCs in seats outside the All India Quota, this benefit was so far not extended to seats allocated under the AIQ in these state colleges.
- The 10% EWS quota under the Constitution (One Hundred And Third Amendment) Act, 2019, too, has been implemented in central educational institutions, but not in the NEET AIQ for state institutions.

What led to the Decision?

- The denial of OBC and EWS reservations has been the subject of protests for years.
- In July last year, the Madras High Court ruled that OBC students too can avail reservation in the AIQ.
- It held that the reservation could not be implemented for the then academic year for want of time, and can be implemented from 2021-22.

3. SCIENCE & TECHNOLOGY

1. Gamma Ray Burst (GRB) Explosion

Why in News?

- The emission from the most notable Gamma Ray Burst (GRB) explosion away from 4.5 billion light-years has been traced by Indian researchers.

What are GRB Explosions?

- GRBs are immensely energetic explosions that have been observed in distant galaxies.
- They are the brightest and most energetic electromagnetic events known to occur in the universe.
- Bursts can last from ten milliseconds to several hours.
- After an initial flash of gamma rays, a longer-lived “afterglow” is usually emitted at longer wavelengths (X-ray, ultraviolet, optical, infrared, microwave and radio).
- The intense radiation of most observed GRBs is thought to be released during a supernova or superluminous supernova as a high-mass star implodes to form a neutron star or a black hole.

What makes GRB special?

- The explosions are both extremely energetic (a typical burst releases as much energy in a few seconds as the Sun will in its entire 10-billion-year lifetime) and extremely rare.
- All observed GRBs have originated from outside the Milky Way galaxy, although a related class of phenomena, soft gamma repeater flares, are associated with magnetars within the Milky Way.
- It has been hypothesized that a gamma-ray burst in the Milky Way, pointing directly towards the Earth, could cause a mass extinction event.

2. New source of gravitational waves detected

Why in News?

- Scientists have for the first time detected gravitational waves produced by the collision of a neutron star and a black hole.

Neutron Star:

- A neutron star is the collapsed core of a massive supergiant star. They result from the supernova explosion of a massive star, combined with gravitational collapse.
- Neutron star, are thought to be composed primarily of neutrons.

- Apart from black holes, neutron stars are the smallest and densest currently known class of stellar objects. Despite their small diameters—about 12.5 miles (20 kilometers)—neutron stars boast nearly 1.5 times the mass of our sun, and are thus incredibly dense.
- Once formed, they no longer actively generate heat, and cool over time; however, they may still evolve further through collision or accretion.

Highlights:

- The bursts of energy from the collisions were discovered when detectors on Earth spotted the mergers' gravitational waves, cosmic energetic ripples soaring through space and time as first theorized by Albert Einstein.
- The reverberations from the happening were picked up from the LIGO network of gravitational wave detectors.
- While astronomers had seen gravitational waves from two black holes colliding with each other and two neutron stars colliding with each other, this is the first time they saw one of each crashing together.
- The study of the neutron star-black hole systems would help answer many questions about star formation and calculating the expansion rate of our universe.

3. Richard Branson takes off first in space tourism race

Why in News?

- Virgin Galactic's crew have successfully completed the flight to space.
- Virgin Galactic space tourism company was founded by Richard Branson.

Highlights:

- Mr. Branson along with his five crewmates from Virgin Galactic space tourism company hurtled into space aboard a winged rocket ship.
- It reached an altitude of about 88 kilometres over the New Mexico desert and then safely landed. The crew experienced three to four minutes of weightlessness and saw the curvature of the earth.
- It was intended as a confidence-boosting mission for Virgin Galactic, which plans to start taking paying customers on joyrides.
- Ms. Bandla became the third Indian-origin woman to fly into space after Kalpana Chawla and Sunita Williams.
- Jeff Bezos' Blue Origin company intends to send tourists past the so-called Karman line 100 kilometres above the earth.

- Karman Line is recognised by international aviation and aerospace federations as the threshold of space.
- The Karman Line is an attempt to define a boundary between Earth's atmosphere and outer space.
- But NASA, the Air Force, the Federal Aviation Administration and some astrophysicists consider the boundary between the atmosphere and space to begin 80 kilometres up.

4. Karman line

Why in News?

- Experts have doubted whether Richard Branson's space mission reached a height that can be called as space.
- Virgin Galactic recently made history when it reached space. This was the first manned mission by a Private Enterprise.

Highlights:

- The space line is officially known as Karman line. It is located 100 km above the Mean Sea Level. US agencies consider it at about 80 km. Virgin Galactic was successful in reaching a height of 86 km and qualified as space mission under US standards but international acknowledgement is yet to follow.
- Jeff Bezos' Blue Origin mission will go at a height of about 106 km. The Karman line has been named after famous aerospace scientist Theodore von Kármán.
- It is similar to international waters as there are no laws governing beyond this point. No rules of Earth apply after crossing this limit.

Need for Karman line:

- By defining the point beyond which space starts, disputes can be avoided and space activities can be Conducted Smoothly.
- It is after this point that rule of aerodynamics stop applying and free space takes over. This line also Keeps Space Neutral.

Presence of Space:

- There has been no clear demarcation of space. Based on presence of charged particles and winds of Earth, space is said to start 118 km above Sea level.
- Some scientists believe that troposphere and stratosphere should be considered atmosphere and parts of mesosphere and complete thermosphere should be outer space.

5. Coronavirus Variants Infecting at a same time

Why in News?

- Two different variants of SARS CoV-2 virus have infected a woman at the same time. It is the first such documented case in the world.
- The Belgian woman was infected with both the Alpha (UK) and Beta (South Africa) variant before she ultimately succumbed to the infection.

Highlights:

- The instance of an individual getting infected with two variants of a virus at a same time is rare but it is possible. If an individual is exposed to multiple infected persons, they may pick up infection from one or all of them. This harbors multiple strains.
- It is also possible that a new virus can infect an individual when initial one is in incubation period and symptoms have not been shown by the body.
- This is not unique to Covid-19. Such instances have been previously seen in HIV AIDS patients. The threat of multiple infections may depend on severity.

Chances of Occurrence:

- The chances are low as getting infected from multiple persons is rare. Person picking up infection from multiple sources also occurs in some isolated cases only.
- To identify such cases, genome sequencing has to be performed. If individual is infected with same strain multiple times, only minor changes can be visible.

Threats:

- Scientists have stressed that there is no need to worry as all strains are neutralized by vaccine. The cases are too rare to worry for. The health concerns of infected individuals will depend on their body immunity, lethal capability of the virus among many.

6. Near-Earth Asteroid Scout Mission

Why in News?

- Last week, NASA announced that its new spacecraft, named NEA Scout, has completed all required tests and has been safely tucked inside the Space Launch System (SLS) rocket.

For landing on Moon:

- NEA Scout is one of several payloads that will hitch a ride on Artemis I, which is expected to be launched in November.
- Artemis I will be an uncrewed test-flight of the Orion spacecraft and SLS rocket.

- Under the Artemis programme, NASA has aimed to land the first woman on the Moon in 2024 and also establish sustainable lunar exploration programs by 2030.

What is NEA Scout?

- Near-Earth Asteroid Scout, or NEA Scout, is a small spacecraft, about the size of a big shoebox. Its main mission is to fly by and collect data from a near-Earth asteroid.
- It will also be America's first interplanetary mission using special solar sail propulsion.
- This type of propulsion is especially useful for small, lightweight spacecraft that cannot carry large amounts of conventional rocket propellant.
- NEA Scout will use stainless steel alloy booms and deploy an aluminium-coated sail measuring 925 square feet.
- The large-area sail will generate thrust by reflecting sunlight.
- Energetic particles of sunlight bounce off the solar sail to give it a gentle, yet constant push.

How will it study the Asteroid?

- NEA Scout is equipped with special cameras and can take pictures ranging from 50 cm/pixels to 10 cm/pixels.
- It can also process the image and reduce the file sizes before sending them to the earth-based Deep Space Network via its medium-gain antenna.
- The spacecraft will take about two years to cruise to the asteroid and will be about 93 million miles away from Earth during the asteroid encounter.

Why should we study near-Earth asteroids?

- Despite their size, some of these small asteroids could pose a threat to Earth.
- Understanding their properties could help us develop strategies for reducing the potential damage caused in the event of an impact.
- Scientists will use this data to determine what is required to reduce risk, increase effectiveness, and improve the design and operations of robotic and human space exploration.

7. What is Monkey B virus?

Why in News?

- China has reported the first human death case with the Monkey B virus (BV).

What is Monkey B virus?

- The virus, initially isolated in 1932, is an alpha herpesvirus enzootic in macaques of the genus *Macaca*. B virus is the only identified old-world-monkey herpes virus that displays severe Pathogenicity in Humans.

How is it Transmitted?

- The infection can be transmitted via direct contact and exchange of bodily secretions of monkeys and has a fatality rate of 70 per cent to 80 per cent.
- According to the Centre for Disease Control and Prevention, Macaque monkeys commonly have this virus, and it can be found in their saliva, feces, urine, or brain or spinal cord tissue.
- The virus may also be found in cells coming from an infected monkey in a lab. B virus can survive for hours on surfaces, particularly when moist.
- Humans can get infected if they are bitten or scratched by an infected monkey.

Symptoms:

- Symptoms typically start within one month of being exposed to B virus but could appear in as little as three to seven days. The first indications of B virus infection are typically flu-like symptoms such as fever and chills, muscle ache, fatigue and headache.
- Following this, a person may develop small blisters in the wound or area on the body that came in contact with the monkey. Some other symptoms of the infection include shortness of breath, nausea and vomiting, abdominal pain and hiccups. As the disease progresses, the virus spreads to and causes inflammation (swelling) of the brain and spinal cord, leading to neurologic and inflammatory symptoms.

Is there a vaccine against B virus?

- Currently, there are no vaccines that can protect against B virus infection.
- The virus might pose a potential threat to laboratory workers, veterinarians, and others who may be exposed to monkeys or their specimens.
- To date, only one case has been documented of an infected person spreading the B virus to another person.

8. Geo-imaging satellite EOS-03

Why in News?

- Geo-imaging satellite for earth observation EOS-03, which would enable near real-time monitoring of natural disasters like floods and cyclones, is scheduled for launch in the third quarter of 2021.

EOS-03:

- ISRO has realized a geo-imaging satellite, “EOS-03”, for Earth Observation from Geostationary Orbit.
- EOS-03 is capable of imaging the whole country four-five times daily and would enable near real-time monitoring of natural disasters like floods and cyclones.
- In addition to natural disasters, EOS-03 would also enable monitoring of water bodies, crops, vegetation condition, forest cover changes.

Other Developments: Small Satellite Launch Vehicle (SSLV)

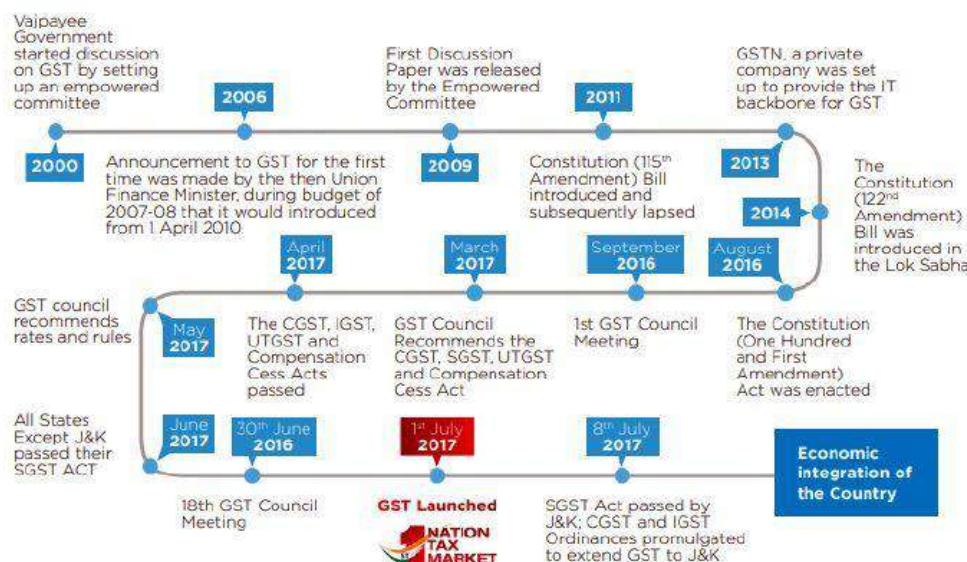
- The first developmental flight of the Small Satellite Launch Vehicle (SSLV) is scheduled for the fourth quarter of 2021 from the Satish Dhawan Space Centre, Sriharikota.
- The SSLV is a cost-effective, three-stage and all-solid launch vehicle with a payload capability of 500 kg to 500 km planar orbit or 300 kg to Sun-Synchronous Polar Orbit.
- It is ideal for the on-demand, quick turn-around launch of small satellites.
- The major technologies developed as part of SSLV are flexible nozzle control with electro-mechanical actuators for all stages, miniaturized avionics, and a velocity trimming module in the upper stage for precise satellite injection.

4. ECONOMY

1. Four Years of GST Regime

Why in News?

- The Prime Minister has lauded Goods and Services Taxes (GST) on its completion of 4 years and said it has been a milestone in the economic landscape of India.



What is GST?

- GST is an indirect tax that has replaced many indirect taxes in India such as excise duty, VAT, services tax, etc.
- The Goods and Service Tax Act was passed in Parliament on 29th March 2017 and came into effect on 1st July 2017. It is a single domestic indirect tax law for the entire country.
- It is a comprehensive, multi-stage, destination-based tax that is levied on every value addition.
- Under the GST regime, the tax is levied at every point of sale. In the case of intra-state sales, Central GST and State GST are charged. All the inter-state sales are chargeable to the Integrated GST.

What are the Components of GST?

- There are three taxes applicable under this system:
 - ✓ **CGST:** It is the tax collected by the Central Government on an intra-state sale (e.g., a transaction happening within Maharashtra)
 - ✓ **SGST:** It is the tax collected by the state government on an intra-state sale (e.g., a transaction happening within Maharashtra)

- ✓ **IGST:** It is a tax collected by the Central Government for an inter-state sale (e.g., Maharashtra to Tamil Nadu)

Advantages Of GST:

- GST has mainly removed the cascading effect on the sale of goods and services.
- Removal of the cascading effect has impacted the cost of goods.
- Since the GST regime eliminates the tax on tax, the cost of goods decreases.
- Also, GST is mainly technologically driven.
- All the activities like registration, return filing, application for refund and response to notice needs to be done online on the GST portal, which accelerates the processes.

Issues with GST:

- High operational cost
- GST has given rise to complexity for many business owners across the nation.
- GST has received criticism for being called a 'Disability Tax' as it now taxes articles such as braille paper, wheelchairs, hearing aid etc.
- Petrol is not under GST, which goes against the ideals of the unification of commodities.

2. Telecom Duopoly

Why in News?

- The Indian telecom sector faces the prospect of duopoly due to the impending exit of Vodafone-Idea. This has several implications.

India's Telecom Sector: From Monopoly to Hyper-Competition:

- India's telecom market has seen monopoly as well as hyper-competition.
- Twenty-five years ago, the government alone could provide services.
- Ten years later, there were nearly a dozen competing operators. Most service areas now have four players.
- However, the possible exit of the financially-stressed Vodafone Idea would leave only two dominant players-Airtel and Jio in the telecom sector.
- A looming duopoly, or the exit of a global telecommunications major, are both worrying.
- They deserve a careful and creative response.

Why it matters:

- Competition has delivered relatively low prices, advanced technologies, and an acceptable quality of services.

- There is a long way to go in expanding access as well as network capacity.
- For example, India is ranked second globally—after China—in the number of people connected to the internet.
- However, it is also first in the number of people unconnected.
- Over 50% of Indians are not connected to the internet, despite giant strides in network reach and capacity. India tops aggregate mobile data usage.
- However, its per capita or device data usage is low.
- It has an impressive 4G mobile network, however, its fixed network—wireline or optical fibre—is sparse and often poor.
- 5G deployment has yet to start and will be expensive.
- Filling the gaps in infrastructure and access will require large investments and competition.
- The exit of the Vodafone-Idea will hurt both objectives.
- The closure of Vodafone Idea is an arguably greater concern than the fading role of BSNL and MTNL.
- The government companies are yet to deploy 4G and have become progressively less competitive.
- Vodafone Idea, on the other hand, still accounts for about a quarter of subscriptions and revenues and can boast of a quality network.

Way out

1. Strategic partnership with BSNL-MTNL

- ✓ A possible way out could be to combine the resources of the MTNL and BSNL and Vodafone Idea through a strategic partnership.
- ✓ Creative government action can save Vodafone Idea as well as improve the competitiveness of BSNL and MTNL.
- ✓ It could help secure government dues, investments, and jobs.

2. Develop resale market

- ✓ Global experience suggests that well-entrenched incumbents have massive advantages.
- ✓ New players are daunted by the large investments.
- ✓ However, regulators and policymakers have other options to expand choice for telecom consumers.
- ✓ Their counterparts in mature regulatory regimes—e.g., in the European Union—have helped develop extensive markets for resale.

- ✓ Recognising the limited influence of smaller players, regulators mandate that the incumbent offer wholesale prices to resellers who then expand choice for end-users.
- ✓ A key barrier to resale is India's licence fee regime which requires licence-holders to share a proportion of their revenues with the Government.

3. NATRAX

Why in News?

- The largest vehicle testing facility has been set up in Indore. The NATRAX is a vehicle testing track developed for new vehicles.
- Till now, India did not have such a large testing facility and relied on Europe and America for getting vehicles tested.

Highlights:

- The testing facility is the largest in India and the fifth largest in the world. It is more advanced than those present in China or Japan. National Automotive Test Tracks (NATRAX) has a 11.3-km high-speed track and is in line with top class facilities elsewhere.
- Vehicle can be tested for a maximum speed of 375 km/hr. Development and homologation tests of all kinds of vehicles can be carried out here.
- Other types of tests that can be performed include durability testing, constant fuel consumption, maximum speed, emission test, brake performance etc.
- The NATRAX project has been constructed under the NATRiP (National Automotive Testing and R&D Infrastructure Project) of Ministry of Heavy Industries.
- The project is a one stop solution for all variety of vehicles and equipments starting from heaviest tractor-trailers to two wheeler vehicles.
- **Currently, manufacturers of equipments will have to go abroad and test their durability, even for Indian conditions. The new facility will remove such issues**

4. Heat pumps

Why in News?

- A new device known as heat pumps is being used to drive out hot air in Western US, which is suffering from historic heat-waves.
- Many citizens have been forced to buy AC for the first time due to the heat. But ACs are not Environment Friendly.

Highlights:

- The heat pumps are said to be a good and environment friendly alternative to AC.
- They do not make use of any kind of fossil fuels. These devices are most appropriate in areas where cooling and heating requirements are moderate.
- Heat pumps make use of electric current to transfer heat from cold place to warm place. It ensures that cool place remains cooler and the warm place warmer.
- It does not generate hot or cold air but rather shifts cold and hot air.
- It absorbs hot air from within a room and releases it outside during cooling process.
- Heat pumps are two types based on the medium of heat absorption. One absorbs heat from air and other from ground.

Eco-friendly nature:

- They do not create hot or cold air so does not require fossil fuels. It works like a refrigerator to transfer heat using minimal amount of electricity.
- It cannot be said as a completely renewable option due to use of electricity but the amount of emissions is lower than AC.

Feasibility:

- The pump is not cheap. It may cost higher than ACs or heating system as it requires laying of pipeline consisting of fluid.
- In such a case, air pumps are most suited.
- The savings on use of this device depends on the area it services and the time used.
- In India, the device is getting popular in places such as movie halls, malls and large buildings. The availability of solar energy makes it an attractive option.

5. Anti-methanogenic feed supplement 'Harit Dhara'

Why in News?

- An Indian Council of Agricultural Research (ICAR) institute has developed an anti-methanogenic feed supplement 'Harit Dhara'.

Harit Dhara:

- Harit Dhara is prepared using condensed and hydrolysable tannin-rich plant-based sources abundantly available in the country.
- It changes the composition of the volatile fatty acids that are the end-products of rumen fermentation (along with hydrogen and CO₂).

- It roughly costs Rs 6/kg and it is to be fed only to animals aged above three months having fully functional rumen.
- When given to bovines and sheep, it not only cuts down their methane emissions by 17-20%.
- It also results in higher milk production and body weight gain.

Why it is Significant?

- Belching cattle, buffaloes, sheep and goats in India emit an estimated 9.25 million tonnes (mt) to 14.2 mt of methane annually, out of a global total of 90 mt-plus from livestock.
- And given methane's global warming potential – 25 times of carbon dioxide (CO₂) over 100 years, making it a more potent greenhouse gas – that's cause for concern.
- An average lactating cow or buffalo in India emits around 200 litres of methane per day, while it is 85-95 litres for young growing heifers and 20-25 litres for adult sheep.
- Feeding Harit Dhara can reduce these by a fifth.

How is Methane Produced by the cattles?

- Methane is produced by animals having rumen, the first of their four stomachs where the plant material they eat – cellulose, fibre, starch and sugars – gets fermented or broken down by microorganisms prior to further digestion and nutrient absorption.
- Carbohydrate fermentation leads to the production of CO₂ and hydrogen.
- These are used as substrate by archaea – microbes in the rumen with structure similar to bacteria – to produce methane, which the animals then expel through burping.
- Harit Dhara acts by decreasing the population of protozoa microbes in the rumen, responsible for hydrogen production and making it available to the archaea for reduction of CO₂ to methane.
- Tropical plants containing tannins – bitter and astringent chemical compounds – are known to suppress or remove protozoa from the rumen.

Need for India:

- The 2019 Livestock Census showed India's cattle population at 193.46 million, along with 109.85 million buffaloes, 148.88 million goats and 74.26 million sheep.
- Being largely fed on agricultural residues – wheat/paddy straw and maize, sorghum or bajra stover – ruminants in India tend to produce 50-100% higher methane than their industrialized country counterparts.

6. Export of GI certified Bhalia Wheat

Why in News?

- In a major boost to wheat exports, the first shipment of Geographical Indication (GI) certified Bhalia variety of wheat was exported today to Kenya and Sri Lanka from Gujarat.

Bhalia Wheat:

- The GI certified wheat has high protein content and is sweet in taste.
- The crop is grown mostly across Bhal region of Gujarat which includes Ahmadabad, Anand, Kheda, Bhavanagar, Surendranagar, Bharuch districts.
- The unique characteristic of the wheat variety is that grown in the rainfed condition without irrigation and cultivated in around two lakh hectares of agricultural land in Gujarat.
- The Bhalia variety of wheat received GI certification in July, 2011.
- The registered proprietor of GI certification is Anand Agricultural University, Gujarat.

7. Authorised Economic Operators

Why in News?

- Central Board of Indirect Taxes & Customs (CBIC) has inaugurated the online filing of Authorised Economic Operators (AEO) T2 and T3 applications.

Who are Authorised Economic Operators?

- The AEO concept is one of the main building blocks within the WCO SAFE Framework of Standards (SAFE).
- The latter is part of the future international Customs model set out to support secure trade.
- The growth of global trade and increasing security threats to the international movement of goods have forced customs administrations to shift their focus more and more to securing the international trade flow and away from the traditional task of collecting customs duties.
- Recognizing these developments, the World Customs Organization, drafted the WCO Framework of Standards to Secure and Facilitate global trade (SAFE).
- In the framework, several standards are included that can assist Customs administrations in meeting these new challenges.
- Developing an Authorized Economic Operator programme is a core part of SAFE.

AEOs in India

- AEO is a voluntary programme.
- It enables Indian Customs to enhance and streamline cargo security through close cooperation with the principal stakeholders of the international supply chain viz. importers, exporters, logistics providers, custodians or terminal operators, customs brokers and warehouse operators.

World Customs Organization (WCO)

- WCO is an intergovernmental organization headquartered in Brussels, Belgium.
- The WCO is noted for its work in areas covering international trade facilitation, customs enforcement activities, combating counterfeiting in support of Intellectual Property Rights (IPR), drugs enforcement, illegal weapons trading, integrity promotion, and delivering the sustainable capacity building to assist with customs reforms and modernization.
- The WCO represents 179 Customs administrations that collectively process approximately 98% of world trade. As the global centre of Customs expertise, the WCO has the tools and expertise to assist implementation of all legal, policy, procedural, technological, and human resource aspects related to trade facilitation.
- The WCO maintains the international Harmonized System (HS) goods nomenclature and administers the technical aspects of the World Trade Organization (WTO) Agreements on Customs Valuation and Rules of Origin.

8. India's First LNG Facility Plant

Why in News?

- Union Minister inaugurated India's first LNG facility plant at Nagpur, Maharashtra.

Highlights:

- The country's first Liquefied Natural Gas (LNG) facility plant has been set up by Baidyanath Ayurvedic Group (private sector) on Kamptee Road near Nagpur Jabalpur Highway.

Liquified Natural Gas (LNG):

- LNG is a clear, colourless and non-toxic liquid that forms when natural gas is cooled to -162°C (-260°F).
- The cooling process shrinks the volume of the gas 600 times, making it easier and safer to store and ship. In its liquid state, LNG will not ignite.

- When LNG reaches its destination, it is turned back into a gas at regasification plants.
- It is then piped to homes, businesses and industries where it is burnt for heat or to generate electricity.
- LNG is now also emerging as a cost-competitive and cleaner transport fuel, especially for shipping and heavy-duty road transport.
- It has the potential to decrease logistics cost and create many job opportunities also.
- LNG is the fuel of the future and will revolutionize the transport sector.

9. SEBI needs to adopt dual approval system for independent directors

Why in News?

- While the regulators have taken giant strides to enhance board independence in India, one significant conundrum persists about appoint and removal process of the independent directors.

How Appointment and Removal Process affects the Independence of independent directors?

- Independent directors are appointed just like other directors through shareholder voting by a simple majority.
- This confers a significant power in the hands of significant shareholders to handpick the independents.
- In case of family-owned companies, it is not uncommon to appoint “friendly” independent directors.
- As for public sector undertakings, there is a demonstrable affiliation between independent directors and the ruling political parties.

Dual Approval System:

- The above trends suggest that unless independent directors owe their allegiance to the shareholder body as a whole, independence is likely to remain largely in form and not function. In its consultation paper, SEBI proposed a “dual approval” system.
- Under this system, the appointment of an independent director required the satisfaction of two conditions:
- First, the approval by a majority of all shareholders.
- Second, the approval of a “majority of the minority”, namely the approval of shareholders other than the promoters.

- SEBI recommended the same “dual approval” system for the removal of independent directors as well.
- SEBI drew inspiration from Israel and the premium-listed segment of the United Kingdom, which confers greater power to minority shareholders in installing or dethroning independent directors.
- SEBI has not yet made any mention of implementing the dual approval system.

Issues with Dual Approval System:

- The first issue is that it militates against the majority rule principle that is intrinsic in a corporate democracy.
- While understandable, that is hardly an immutable rule as corporate law does make exceptions in cases involving oppression of minority shareholders.
- The second concern is that placing too much power in the hands of minority shareholders would be counterproductive, as it could result in a tyranny of the minority.
- However, the dual approval system instead represents the best of both worlds. It does not negate the promoter’s involvement in the process of appointing or removing independent directors.
- Only consensus candidates would end up becoming independent directors.
- The third issue is one of shareholder apathy: Will minority shareholders be motivated to exercise an informed and meaningful choice?
- Minority shareholders tend to be passive when they are unable to influence the outcome of shareholding voting.
- However, where they do have a significant say, like in the “majority of the minority” process, they are likely to be more active in exercising their franchise.

10. Curbs on Mastercard

Why in News?

- The Reserve Bank of India (RBI) has banned Mastercard from issuing new debit and credit cards to customers in India.

RBI’s data localisation policy:

- In 2018, the Reserve Bank of India had issued a circular ordering card companies such as Visa, Mastercard, and American Express to store all Indian customer data locally.
- The underlying reasons for this were stated as follows:

- Local storage of consumer data is necessary to protect the privacy of Indian users and to address national security concerns.
- Regulator could have necessary supervisory access over the card companies.

RBI strict Implementation of the Guidelines:

- Earlier, American Express and Diners Club International were banned by the RBI from issuing new cards after they failed to comply with the 2018 circular.
- According to the RBI, Mastercard has failed to comply with the local data storage rules announced in 2018.

Concerns:

- The move to ban Mastercard would impact the operation of banks operating in India that use Mastercard's services to issue cards to their customers.
- Given that Mastercard accounts for almost one third of the card market in India, new card registrations might take a hit.
- Some believe the data localisation rules are being used by governments as tools of economic protectionism. This sort of economic protectionism could affect the business of foreign card companies. Thus, the card payments sector may end up being restricted to a few domestic companies, which in turn can lead to reduced competition. This could mean higher costs and lower quality services for customers.

11. Bad Bank launched for stressed assets

Why in News?

- The Government has launched a Bad Bank with all the regulatory approvals in place.

What is a Bad Bank?

- A bad bank conveys the impression that it will function as a bank but has bad assets to start with.
- Technically, it is an asset reconstruction company (ARC) or an asset management company that takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time.
- Such a bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.
- The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently.

Global Examples of Bad Bank:

- US-based BNY Mellon Bank created the first bad bank in 1988, after which the concept has been implemented in other countries including Sweden, Finland, France and Germany.
- However, resolution agencies or ARCs set up as banks, which originate or guarantee to lend, have ended up turning into reckless lenders in some countries.

Do we need a Bad Bank?

- The idea gained currency during Rajan's tenure as RBI Governor.
- The RBI had then initiated an asset quality review (AQR) of banks and found that several banks had suppressed or hidden bad loans to show a healthy balance sheet.
- However, the idea remained on paper amid lack of consensus on the efficacy of such an institution.
- ARCs have not made any impact in resolving bad loans due to many procedural issues.

What is the stand of the RBI and Government?

- While the RBI did not show much enthusiasm about a bad bank all these years, there are signs that it can look at the idea now.
- Experts, however, argue that it would be better to limit the objective of these asset management companies to the orderly resolution of stressed assets, followed by a graceful exit.

Good about the Bad Banks:

- The problem of NPAs continues in the banking sector, especially among the weaker banks.
- The bad bank concept is in some ways similar to an ARC but is funded by the government initially, with banks and other investors co-investing in due course.
- The presence of the government is seen as a means to speed up the clean-up process.
- Many other countries had set up institutional mechanisms such as the Troubled Asset Relief Programme (TARP) in the US to deal with a problem of stress in the financial system.

12. One District One Focus Product Scheme

Why in News?

- The One District One Focus Product (ODOFP) programme cover products of agriculture and allied sectors for 728 districts of the country.

ODOFP programme:

- The ODOFP programme cover products of agriculture and allied sectors for 728 districts of the country.
- The products have been identified from agricultural, horticultural, animal, poultry, milk, fisheries, aquaculture, marine sectors across the country.
- These identified products will be supported under the PM-FME scheme of the Ministry of Food Processing Industries, which provides incentives to promoters and micro-enterprises
- This scheme is being implemented for a period of five years from 2020-21 to 2024-25.
- The scheme adopts One District One Product (ODOP) approach to reap the benefits of scale in terms of procurement of inputs, availing common services and marketing of products.

ODOP:

- The ODOP scheme aims to identify one product per district based on the potential and strength of a district and national priorities.
- A cluster for that product will be developed in the district and market linkage will be provided for that.
- It is operationally merged with 'Districts as Export Hub' initiative implemented by the Director-General of Foreign Trade (DGFT), Department of Commerce.
- Under the initial phase of the ODOP programme, 106 Products have been identified from 103 districts across 27 States.

13. Periodic Labour Force Survey (2019 –2020)

Why in News?

- The Periodic Labour Force Survey (PLFS) Annual Report for July, 2019 to June 2020 was recently released by the National Statistical Office (NSO).

Periodic Labour Force Survey:

- Considering the importance of the availability of labour force data at more frequent time intervals, National Statistical Office (NSO) launched PLFS in April 2017.
- The objective of PLFS is primarily twofold:
- to estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the Current Weekly Status (CWS).

- to estimate employment and unemployment indicators in both 'Usual Status' and CWS in both rural and urban areas annually.

Various Dimensions of the Survey:

- The PLFS gives estimates of Key employment and unemployment Indicators:
- Labour Force Participation Rate (LFPR): LFPR is defined as the percentage of persons in the labour force (i.e. working or seeking or available for work) in the population.
- Worker Population Ratio (WPR): WPR is defined as the percentage of employed persons in the population.
- Unemployment Rate (UR): UR is defined as the percentage of persons unemployed among the persons in the labour force.
- Activity Status- Usual Status: The activity status of a person is determined on the basis of the activities pursued by the person during the specified reference period. When the activity status is determined on the basis of the reference period of the last 365 days preceding the date of the survey, it is known as the usual activity status of the person.
- Activity Status- Current Weekly Status (CWS): The activity status determined on the basis of a reference period of the last 7 days preceding the date of the survey is known as the CWS of the person.

Highlights of the Third Report:

- The Labour force participation ratio has increased to 40.1% in 2019-20 from 37.5% and 36.9%, respectively, in the last two years.
- Worker population rate improved to 38.2% in 2019-20 compared with 35.3% in 2018-19 and 34.7% in 2017-18.
- The unemployment rate fell to 4.8% in 2019-20. In 2018-19, it stood at 5.8% and 6.1% in 2017-18.

14. Essential Defence Services Bill, 2021

Why in News?

- The Minister of State for Defence has introduced the Essential Defence Services Bill in the Lok Sabha.

Essential Defence Services Bill:

- Essentially, the bill is aimed at preventing the staff of the government-owned ordnance factories from going on strike.

- Around 70,000 people work with the 41 ordnance factories around the country.
- It is aimed to provide for the maintenance of essential defence services so as to secure the security of the nation and the life and property of the public at large and for matters connected therewith or incidental thereto.

Why need such a bill?

- Indian Ordnance Factories is the oldest and largest industrial setup that functions under the Department of Defence Production of the Ministry of Defence.
- The ordnance factories form an integrated base for indigenous production of defence hardware and equipment, with the primary objective of self-reliance in equipping the armed forces with state-of-the-art battlefield equipment.
- It is essential that an uninterrupted supply of ordnance items to the armed forces be maintained for the defence preparedness of the country and the ordnance factories continue to function without any disruptions.

What does it allow the Government to do?

- The Bill empowers the Government to declare services mentioned in it as essential defence services the cessation of work of which would prejudicially affect the production of defence equipment or goods.
- It also prohibits strikes and lockouts in “any industrial establishment or unit engaged in essential defence services”.

Why does the Government feel its need?

- In June the government announced the corporatization of the Ordnance Factory Board.
- The OFB was directly under the Department of Defence Production and worked as an arm of the government.
- The government has claimed that the move is aimed at improving the efficiency and accountability of these factories.
- The Bill mentioned that there is a threat, though, that the employees of these factories can go on a strike against the decision.

15. National Farmers Database

Why in News?

- The Centre’s new National Farmers Database will only include land-owning farmers for now as it will be linked to Digitized Land Records.

National Farmers Database:

- The Central government had proposed an Agristack initiative to create a digital database that focuses on farmers and the agricultural sector.
- As part of the first step of this initiative, the government has initiated a farmers database that would serve as the core of the Agristack.
- The database would be linked to the digital land record management system and would thus only include farmers who were legal owners of agricultural land.
- The database would facilitate online single sign-on facilities for universal access and usher in proactive and personalized services to farmers such as DBT, soil and plant health advisories, weather advisories
- It would also facilitate seamless credit & insurance, seeds, fertilizers, and pesticide-related information.

Need for such Database:

- India has 140 million operational farmland holdings.
- The availability of a database would serve an important role in the formulation of evidence-based policies for the agricultural sector.
- Also, the government can make use of the database for targeted service delivery with higher efficiency and in a focused and time-bound manner.
- The database could be used to select beneficiaries of government schemes.
- The availability of data will make it possible to implement digital technologies like AI/Machine Learning, IoT in the agricultural domain, thus opening up the sector to immense opportunities for improvement in productivity.

AgriStack Initiative:

- The AgriStack is a collection of technologies and digital databases proposed by the Central Government focusing on India's farmers and the agricultural sector.
- The central government has claimed that these new databases are being built to primarily tackle issues such as poor access to credit and wastage in the agricultural supply chain.
- Under AgriStack', the government aims to provide 'required data sets' of farmers' personal information to Microsoft to develop a farmer interface for 'smart and well-organized agriculture'.
- The digital repository will aid precise targeting of subsidies, services, and policies.
- Under the program, each farmer of the country will get what is being called an FID, or a farmers' ID, linked to land records to uniquely identify them.

5. GEOGRAPHY & ENVIRONMENT

1. Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition

Why in News?

- At the recently concluded Leaders' Summit on Climate in April 2021, the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition was announced.



LEAF Coalition:

- LEAF Coalition is a collective of the US, UK and Norway governments.
- It is a public-private effort, thus supported by transnational corporations (TNCs) like Unilever plc, Amazon, Nestle, Airbnb etc.
- It came up with a \$1 billion fund plan that shall be offered to countries committed to arresting the decline of their tropical forests by 2030.
- The LEAF coalition initiative is a step towards concretizing the aims and objectives of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism.

How does this coalition work?

- The LEAF Coalition can help reverse the trend by providing unprecedented financial support to tropical forest governments implementing forest protection, contributing to green and resilient growth through sustainable investments.
- It empowers tropical and subtropical forest countries to move more rapidly towards ending deforestation while supporting them in achieving their Nationally Determined Contributions (NDCs) under the Paris Agreement.

- Reductions in emissions are made across entire countries or large states and provinces (“jurisdictions”) through programs that involve all key stakeholders, including Indigenous peoples and local communities.

Why is it Significant?

- Financial impetus is crucial as it incentivizes developing countries to capture extensive deforestation and provide livelihood opportunities to forest-dependent populations.
- The initiative comes at a crucial time when the tropics have lost close to 12.2 million hectares (mha) of tree cover year last year according to global estimates released by Global Forest Watch.
- Most of these lost forests were located in the developing countries of Latin America, Africa and South Asia. India’s estimated loss in 2020 stands at 20.8-kilo hectares due to forest fires

What lies Next?

- Implementation of the LEAF Coalition will help pump in fresh rigour among developing countries like India, that are reluctant to recognize the contributions of their forest-dwelling populations in mitigating climate change.
- With the deadline for proposal submission fast approaching, India needs to act swiftly on a revised strategy.
- Although India has pledged to carry out its REDD+ commitments, it is impossible to do so without seeking knowledge from its forest-dwelling population.

2. Heat Dome

Why in News?

- A US city has recorded the highest temperatures as high as 46-degree Celsius part due to the historic heatwave that lasted as a result of a phenomenon referred to as a “heat dome”.

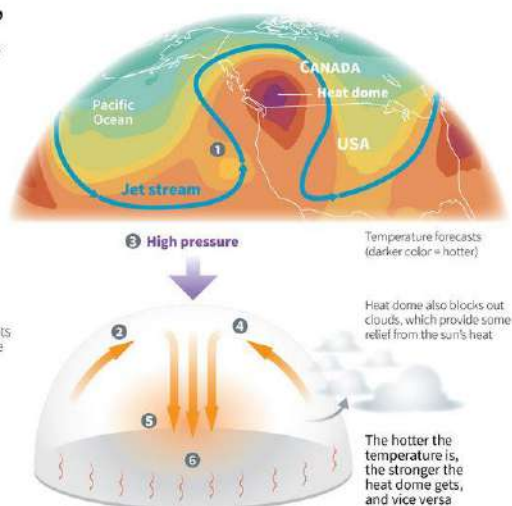
What is a Heat Dome?

- To understand what causes a heat dome, one should liken the Pacific Ocean to a large swimming pool in which the heater

The ‘heat dome’

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 **Hot and stagnant air expands upwards**
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Niña act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air sinks and **compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



is turned on.

- Once the heater is on, the portions of the pool close to the heating jets will warm up faster and therefore, the temperature in that area will be higher.
- In the same way, the western Pacific ocean's temperatures have increased in the past few decades and are relatively more than the temperature in the eastern Pacific.
- This strong change in ocean temperature from the west to the east is what a team of scientists believe is the reason for the heat dome.
- This occurs when the atmosphere traps heat at the surface, which encourages the formation of a heatwave.
- To compare, the reason that the planet Venus is the hottest in the Solar System is that its thick, dense cloud cover traps the heat at the surface, leading to temperatures as high as 471 degrees Celsius.

Is this heat wave a result of climate change?

- It cannot be said for sure if the heatwave is a direct result of global warming.
- Scientists are usually wary of linking climate change to any contemporary event mainly because of the difficulty in completely ruling out the possibility of the event having been caused by some other reason.
- Similarly, scientists who have been studying the climate tend to agree that the heat waves occurring today are more likely to be a result of climate change for which humans are responsible.

3. Arctic's 'Last Ice Area'

Why in News?

- A part of the Arctic's ice called the "Last Ice Area", located north of Greenland, has melted before expected. Scientists had believed this area was strong enough to withstand global warming.

What is the Last Ice Area?

- In an article published in 2015, National Geographic noted that climate projections forecast the total disappearance of summer ice in the Arctic by the year 2040.



- However, the only place that would be able to withstand a warming climate would be this area of ice called the “Last Ice Area”.
- But while this piece of ice above northern Canada and Greenland was expected to last the longest time, it is now showing signs of melting.
- WWF claims that WWF-Canada was the first to call this area the ‘ Last Ice Area’.

Why is the area important?

- The area is important because it was thought to be able to help ice-dependent species as ice in the surrounding areas melted away.
- The area is used by polar bears to hunt for seals who use ice to build dens for their offspring.
- Walrus too, use the surface of the ice for food search.

When did the area Start Changing?

- The first sign of change in LIA was observed in 2018.
- Further, in August last year, sea ice showed its “vulnerability” to the long-term effects of climate change. The ice in LIA has been thinning gradually over the years much like other parts of the Arctic Ocean.

What are the Reasons that Explain the Change?

- About 80 per cent of thinning can be attributed to weather-related factors such as winds that break up and move the ice around.
- The remaining 20 per cent can be attributed to the longer-term thinning of the ice due to Global Warming.

4. Lemru Elephant reserve

Why in News?

- The Chhattisgarh forest department has asked officials to make provisions for decreasing area under the proposed Lemru Elephant reserve.
- The Lemru reserve has been in the development phase since the past 20 years. Several leaders of the ruling party have also opposed the decreasing of area.

Highlights:

- The proposed Lemru elephant reserve is present in Korba district of the state. It was unanimously proposed in 2005 and received approval by central government in 2007.

- It is one among the two Elephant reserves that have been planned in the state for reducing conflict with humans. Elephants in this region move in from Jharkhand and Odisha.
- The reserve is part of the Elephant corridor between Lemru, Badalkhol and Tamorpingla areas of the state. If all these areas are not connected then the reserve will not serve its purpose.

Reasons for Reducing Area of the reserve:

- The area under the reserve falls under Hasdeo Aranya forests, which has large coal deposits. Earlier these were not allotted to anyone but now some blocks have been leased.
- Earlier too there were demands to stop the reserve so that coal can be obtained. If reserve is notified, many coal blocks will become unusable.

Man Animal Conflict:

- Chhattisgarh is relatively new for elephants and also people, as they started moving in from Odisha and Jharkhand.
- This has intensified conflict between humans and elephants. The reserve has the potential to conserve the species.

5. What is Gross Environment Product?

Why in News?

- The Uttarakhand government recently announced it will initiate valuation of its natural resources in the form of 'Gross Environment Product' (GEP), said to be along the lines of Gross Domestic Product (GDP).

Why such a move?

- The idea of the valuation of the components of the environment is not new.
- But it got impetus following rapid degradation of ecosystems, which led to adverse impacts on more than 60 percent of services we get from the Ecosystems.

What is Gross Environment Product (GEP)?

- GEP is the measure of ecosystem services of any area.
- It reflects the aggregated annual value of goods and services provided by ecosystems (forests, water bodies, oceans, etc.) to people in a given region, such as at district levels, state, and country.
- It entails the establishment of a natural capital accounting framework by integrating ecological benefits into common measures of economic growth such as GDP.

- It summarizes the value of ecosystem services in a single monetary metric.

Evolution of GEP:

- Several attempts were made to find ways to address environmental issues.
- The term “ecosystem services” was coined in 1981 to attract academics towards this aspect.
- Ecosystem services represent the benefits humans get: Forests, lakes, and grasslands; timber and dyed; carbon sequestration and nutrient cycling; soil formation and productivity; and tourism. The definition is still in the process of evolution. The concept received attention and now is part of Global Knowledge.

Advantages offered:

- GEP can be applied as a scientific basis for Eco-Compensation and public financial transfers.
- For example, Finance Commission’s revenue-sharing formula between the Union and the states including forest cover as a determining factor in a state’s share.
- GEP can be applied to measure the status of ecosystem services, which is an important indicator of sustainable development.
- It is also a critical indicator for measuring the progress of Eco-civilization.
- Its implementation can help assess the impact of anthropological pressure on our ecosystem and natural resources- air, water, soil, forests.

The Himalayan context:

- The Himalayas contribute substantially to the sustainability of the Gangetic Plains where 500 million people live.
- The Union government incorporated the value of ecosystem services of its states in national accounting. According to the recommendation of the 12th and 13th Finance Commissions, grants were transferred to forest-rich states in amounts corresponding to their forest covers. However, considering only the forest cover in transferring funds to states is inadequate.

6. 14 Indian Tiger Reserves get Global CA/TS recognition

Why in News?

- The Environment Ministry has released the names of the 14 tiger reserves that had received the accreditation of the Global Conservation Assured|Tiger Standards (CA|TS), an accreditation tool agreed upon by tiger range countries.

Conservation Assured | Tiger Standards (CA|TS):

- CA|TS has been agreed upon as an accreditation tool by the global coalition of Tiger Range Countries (TRCs) and has been developed by tiger and protected area experts.
- Officially launched in 2013, it sets minimum standards for effective management of target species and encourages the assessment of these standards in relevant conservation areas.
- CA|TS is a set of criteria that allows tiger sites to check if their management will lead to successful tiger conservation.
- The Global Tiger Forum (GTF), an international NGO working on tiger conservation, and World Wildlife Fund India are the two implementing partners of the National Tiger Conservation Authority for CATS assessment in India.

Which are the 14 Reserves?

- The 14 tiger reserves which have been accredited are:
 - ✓ Manas, Kaziranga and Orang in Assam,
 - ✓ Satpura, Kanha and Panna in Madhya Pradesh,
 - ✓ Pench in Maharashtra,
 - ✓ Valmiki Tiger Reserve in Bihar,
 - ✓ Dudhwa in Uttar Pradesh,
 - ✓ Sunderbans in West Bengal,
 - ✓ Parambikulam in Kerala,
 - ✓ Bandipur Tiger Reserve of Karnataka and
 - ✓ Mudumalai and Anamalai Tiger Reserve in Tamil Nadu

Significance:

- CATS accreditation is a global recognition of good tiger governance.
- This recognition means a lot in the context of adaptation to climate change, sustainability of ecosystem services, and safeguarding disruption of zoonotic cycles, through an umbrella species approach.
- The aspects monitored for accreditation include the importance and status of a reserve, management, community participation, tourism, protection, habitat management, and tiger populations.

7. Centre launches Secured Logistics Document Exchange (SLDE) and GHG Calculator

Why in News?

- With an aim to further improve ease of doing business, Centre today launched the “Secured Logistics Document Exchange” along with a Calculator for Green House Gas Emissions

Secured Logistics Document Exchange (SLDE):

- The SLDE platform is a solution to replace the present manual process of generation, exchange and compliance of logistics documents with a digitized, secure and seamless document exchange system.
- It is set to improve logistics efficiency, reduce logistics cost, and promote multi-modality and sustainability in a big way.
- This will enable generation, storage and interchange of logistics-related documents digitally using Aadhaar and blockchain-based security protocols for data security and authentication.
- It will also provide a complete audit trail of document transfer, faster execution of transaction, lower cost of shipping and overall carbon footprint, easy verification of authenticity of documents, lowered risk of fraud, etc.
- The proof of concept of the platform has been developed and executed with banks (ICICI, Axis Bank, State Bank of India and HDFC Bank) and stakeholders including freight forwarders, exporters, importers and vessel operators.

Green House Gas (GHG) Emission Calculator:

- The GHG Calculator is an efficient, user-friendly tool and provides for calculating and comparing GHG emissions across different modes.
- It allows for a commodity-wise comparison of GHG emissions and total cost of transportation, including their environmental cost, between movement by road and rail.
- The tool is intended to facilitate appropriate modal choice for all concerned.

Green House Gases (GHGs):

- A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect.
- The primary greenhouse gases in Earth’s atmosphere are water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃).

-
- Without greenhouse gases, the average temperature of Earth's surface would be about -18°C (0°F), rather than the present average of 15°C (59°F).
 - The atmospheres of Venus, Mars, and Titan also contain greenhouse gases.



6. INTERNATIONAL RELATIONS

1. India flags 'green pass' issue

Why in News?

- The EU is about to launch a Digital Green Pass that will allow its holders to move about freely in the Schengen territory, with COVID travel restrictions.

What is 'Green pass'?

- The EU Digital Covid Certificate, or the "green pass" has been created to restore freedom of travel for the public and remove the barriers on entry placed due to the pandemic.
- The new vaccine passport system would come into effect across the EU from July 1, 2021.
- The document is valid across all EU countries.
- Before the pandemic, Schengen visa allowed the holders to move around freely. As part of the Schengen agreement, 26 European countries had abolished border control of any type, beginning in 1985.
- There are three ways to obtain a green pass:
- Get fully vaccinated with one of the EMA approved vaccines
- Show a recovery report less than 11 days after testing positive for COVID-19.
- Show a negative test report, or an antibodies test.

Issue:

- The European Medicines Agency (EMA) has not approved the India-produced Astrazeneca vaccine Covishield for the green pass despite approving its United Kingdom-made counterpart Vaxzevria.
- None of the three vaccines which have been approved for use in India till date — Covishield, Covaxin and Sputnik V — feature on the list.
- Currently, Covishield is the only WHO-approved vaccine available to Indians.
- The EMA's decision to exclude Covishield from the list has enraged many who have availed of the vaccine as it was WHO approved.

EMA's Response:

- European Medicines Agency (EMA) has said that application has not been made for both Covishield and Covaxin to be included in the EMA list.
- It has made it clear that even if the vaccine is the same, different manufacturers of the same product need to submit separate applications for approval from EMA. This is because the EMA takes into consideration local manufacturing facilities.

India's stand on 'Vaccine Passports':

- Vaccine passport has given rise to larger concerns over intrusion, privacy and a curb on the right to free movement.
- Though the EU has made it clear that the green pass will not be compulsory, the issue has given rise to a larger debate on concerns around privacy and ethics.
- In a recent development, government sources have warned that India will introduce a reciprocal policy only allowing ease of travel for those European countries that recognise Indian vaccines Covishield and Covaxin.

2. OECD-G20 Inclusive Framework Tax Deal

Why in News?

- India has joining the OECD-G20 framework for a global minimum tax.

What is this Tax Deal?

- The proposed solution consists of two components:
- Pillar One is about the reallocation of an additional share of profit to the market jurisdictions and
- Pillar Two consists of minimum tax and subject to tax rules
- Some significant issues including share of profit allocation and scope of subject to tax rules, remain open and need to be addressed.
- Further, the technical details of the proposal will be worked out in the coming months and a consensus agreement is expected by October.

Why did India Join?

- The principles underlying the solution vindicates India's stand for a greater share of profits for the markets, consideration of demand-side factors in profit allocation.
- There is a need to seriously address the issue of cross border profit shifting and need for the subject to tax rules to stop treaty shopping.
- India is in favour of a consensus solution that is simple to implement and simple to comply with.
- At the same time, the solution should result in the allocation of meaningful and sustainable revenue to market jurisdictions, particularly for developing and emerging Economies.

What is Base Erosion and Profit Shifting (BEPS)?

- BEPS refers to corporate tax planning strategies used by multinationals to “shift” profits from higher-tax jurisdictions to lower-tax jurisdictions.
- It thus “erodes” the “tax base” of the higher-tax jurisdictions.
- Corporate tax havens offer BEPS tools to “shift” profits to the haven, and additional BEPS tools to avoid paying taxes within the haven.
- It is alleged that BEPS is associated mostly with American technology and life science multinationals.

3. Crafting a unique partnership with Africa

Why in News?

- This op-ed analyses the future of India-Africa cooperation in agriculture amid the looming Chinese involvement in African countries.

Agricultural Significance of Africa:

- With 65% of the world’s uncultivated arable land, employing over 60% of the workforce, and accounting for almost 20% of Sub-Saharan Africa’s GDP, agriculture is critical to Africa’s Economy.

China Factor Behind:

- As this relationship enters the post-pandemic world, it is vital to prioritize and channel resources into augmenting partnerships in agriculture.
- This is crucial given its unexplored potential, centrality to global food security, business prospects and to provide credible alternatives to the increasing involvement of Chinese stakeholders in the sector.

Analyzing Chinese engagement:

- Chinese corporations, small and medium-sized enterprises and entrepreneurs adopt has provided a layered perspective of the sociopolitical, economic and environmental impact of Chinese engagement.
 - ✓ **Trade:** China is among Africa’s largest trading partners.
 - ✓ **Credit facility:** It is also Africa’s single biggest creditor.
 - ✓ **Infrastructure:** Its corporations dominate the region’s infrastructure market and are now entering the agri-infra sector.

- ✓ **Strategic support:** While access to Africa's natural resources, its untapped markets and support for 'One China Policy' are primary drivers of Chinese engagement with the region, there are other factors at play.

China is Going Strategic in the guise of agriculture:

- Increasingly critical to China's global aspirations, its engagement in African agriculture is taking on a strategic quality.
- Chinese-built industrial parks and economic zones in Africa are attracting low-cost, labour-intensive manufacturing units that are relocating from China.
- Chinese engineers interviewed spoke of how their operations in Africa are important to accumulate global experience in management, risk and capital investments.
- Not only are they willing to overlook short-term profits in order to build a 'brand China', but they want to dominate the market in the long term, which includes pushing Chinese standards in host countries.
- Chinese tech companies are laying critical telecommunications infrastructure, venture capital funds are investing in African fintech firms, while other smaller enterprises are expanding across the region.

Agricultural Landscape:

- While many Chinese entities have been active in Africa's agriculture for decades now, the nature, form and actors involved have undergone substantial change.
- In Zambia, Chinese firms are introducing agri-tech to combat traditional challenges, such as using drone technology to control the fall armyworm infestation.
- They have set up over Agricultural Technology Demonstration Centers (ATDCS) in the continent where Chinese agronomists work on developing new crop varieties and increasing crop yields.
- This ATDCs partner with local universities, conduct workshops and classes for officials and provide training and lease equipment to small holder farmers.
- Chinese companies with no prior experience in agriculture are setting out to build futuristic ecological parks while others are purchasing large-scale commercial farms.

Inducing their Soft Power:

- The exponential growth in the China-Africa economic ties and the emergence of Beijing as an alternative to traditional western powers have motivated change in perceptions across groups.

- Governments and heads of state are recalibrating approaches, media houses are investing more resources for on-the-ground reporting.

Dark Side of the Sino-Africa ties

- Simultaneously, Africa-China relations are becoming complex with a growing, insular diaspora, lopsided trade, looming debt, competition with local businesses and a negative perception accompanied by greater political and socioeconomic interlinkages.
- On occasion, there seems to be a gap between skills transferred in China and the ground realities in Africa.
- In some cases, the technology taught in China is not available locally and in others, there is inability to implement lessons learnt due to the absence of supporting resources.
- Larger commercial farms run by Mandarin-speaking managers and the presence of small-scale Chinese farmers in local markets aggravates socio-cultural stresses.

India's Agricultural Engagement:

- Diverse portfolios: India-Africa agricultural cooperation currently includes institutional and individual capacity-building initiatives, an extension of soft loans, supply of machinery, acquisition of farmlands and the presence of Indian entrepreneurs in the African agricultural ecosystem.
- Land acquisition: Indian farmers have purchased over 6,00,000 hectares of land for commercial farming in Africa.
- States cooperation: Sub-national actors are providing another model of cooperation in agriculture. Consider the case of the Kerala government trying to meet its requirement for cashew nuts with imports from countries in Africa.
- Civil society: Similar ideas could encourage State governments and civil society organizations to identify opportunities and invest directly.
- Agri-business: There is also promise in incentivizing Indian industries to tap into African agri-business value chains and connecting Indian technology firms and startups with partners in Africa.
- Investment: In the past year, despite the pandemic, the sector witnessed a record increase in Investments.

4. Vatican Embezzlement Trials

Why in News?

- A catholic Italian cleric, Cardinal Angelo Becciu, has been made to stand trial for a corruption charge by a judge of Vatican.
- The cardinal is accused on involving in financial crimes that are related to embezzlement of church funds.

Highlights:

- The cardinal is one among many other church clergy, who have been accused of making illegal purchases using church funds.
- The decision by the Pope to allow cardinal to stand trial is seen to be an effort to improve reputation of catholic churches when it comes to handling financial crimes.
- Cardinal Becciu is an influential personal with power to vote during papal conclaves. Papal conclaves are events that take place to elect a new Pope.

The Crime:

- The crime involves buying plush apartment in central London using church money and routing it through illegal offshore accounts and shell companies.
- The cardinal was once a close aide of the Pope and was in charge of Vatican's Secretariat of State that looks after donations of the church.
- The accusations say that the cardinal siphoned off the church money to help some of his relatives.
- The cardinal has claimed innocence but has lost his voting powers.
- The financial crimes such as this have caused losses in millions to the church.
- The lost funds were intended to be used for the Pope's charity.

5. Strategic cooperation between India, Italy and Japan can ensure a free Indo-Pacific

Why in News?

- Recently, Mr. Draghi, Italy's Prime Minister described Chinese competitive practices as "unfair" and invited the EU to be franker and more courageous in confronting Beijing on various issues. Against this backdrop, a trilateral partnership between India-Japan-Italy could play important role in the Indo-Pacific region.

India's growing centrality in Indo-Pacific strategic architecture:

- Countries that share similar values and face similar challenges are coming together to create purpose-oriented partnerships.
- In the context of the Indo-Pacific, the challenges posed by China's assertive initiatives clash with a region lacking multilateral organisations capable of solving problems effectively.
- But as a new pushback against China takes shape and as Indian foreign policy becomes strategically clearer, there is new momentum to initiatives such as the Quad.

India-Italy-Japan Trilateral Partnership:

- Recently, Italy has also begun to signal its intention to enter the Indo-Pacific geography.
- It has done so by seeking to join India and Japan in a trilateral partnership.
- Italy has become more vocal on the risks emanating from China's strategic competitive initiatives.
- On the Indian side, there is great interest in forging new partnerships with like-minded countries interested in preserving peace and stability in the Indo-Pacific.
- The responsibility of keeping the Indo-Pacific free and open, and working for the welfare of its inhabitants falls on like-minded countries within and beyond the region.

Potential of Trilateral Partnership

- Their compatible economic systems can contribute to the reorganisation of the global supply chains that is now being reviewed by many players as a natural result of the Chinese mismanagement of the COVID-19 pandemic.
- At the security level, the well-defined India-Japan Indo-Pacific partnership can easily be complemented by Italy.
- At the multilateral level, the three countries share the same values and the same rules-based world view.

The Way Forward for Trilateral Cooperation

- The Italian government must formulate a clear Indo-Pacific strategy that must indicate its objectives. But Rome must go beyond that in defining and implementing, at the margins of the EU's common initiatives, its own policy with respect to the Indo-Pacific.
- The India, Italy and Japan trilateral initiative can be a forum to foster and consolidate a strategic relationship between these three countries, and specifically expand India-Italy bilateral relations.

- A trilateral cooperation can be the right forum for India and Italy to learn more from each other's practices and interests and consolidate a strategic dialogue that should include the economic, the security and the political dimensions.
- To consolidate the trilateral cooperation in this field, the three countries need to define a common economic and strategic agenda.

6. India's Afghan investment

Why in News?

- After a break between 1996 and 2001, when India joined the world in shunning the previous Taliban regime (only Pakistan, the UAE, and Saudi Arabia kept ties).
- One-way New Delhi re-established ties with the country in the two decades after the 9/11 attacks was to pour in development assistance, under the protective umbrella of the US presence.
- India built vital roads, dams, electricity transmission lines and substations, schools and hospitals, etc. India's development assistance is now estimated to be worth well over \$3 billion.
- And unlike in other countries where India's infrastructure projects have barely got off the ground or are mired in the host nation's politics, it has delivered in Afghanistan.

A Soft Corner:

- Afghanistan is vital to India's strategic interests in the region.
- It is also perhaps the only SAARC nation whose people have much affection for India.
- Taliban takeover would mean a reversal of nearly 20 years of rebuilding a relationship that goes back centuries.

Projects across the country:

SALMA DAM:

- Already, there has been fighting in the area where one of India's high-visibility projects is located – the 42MW Salma Dam in Herat province.
- The hydropower and irrigation project, completed against many odds and inaugurated in 2016, is known as the Afghan-India Friendship Dam.
- In the past few weeks, the Taliban have mounted attacks in nearby places, killing several security personnel.
- The Taliban claim the area around the dam is now under their control.

ZARANJ-DELARAM HIGHWAY:

- The other high-profile project was the 218-km Zaranj-Delaram highway built by the Border Roads Organisation. Zaranj is located close to Afghanistan's border with Iran.
- With Pakistan denying India overland access for trade with Afghanistan, the highway is of strategic importance to New Delhi, as it provides an alternative route into landlocked Afghanistan through Iran's Chabahar port.

AFGHAN PARLIAMENT:

- The Afghan Parliament in Kabul was built by India at \$90 million.
- It was opened in 2015; PM Modi inaugurated the building.
- A block in the building is named after former PM AB Vajpayee.

STOR PALACE:

- In 2016, Afghan President Ashraf Ghani and PM Modi inaugurated the restored Stor Palace in Kabul, originally built in the late 19th century.
- It is famous for the 1919 Rawalpindi Agreement by which Afghanistan became an independent country.

POWER INFRA:

- Other Indian projects in Afghanistan include the rebuilding of power infrastructure such as the 220kV DC transmission line from Pul-e-Khumri, the capital of Baghlan province to the north of Kabul. Indian contractors and workers also restored telecommunications infrastructure in many provinces.

HEALTH INFRA:

- India has reconstructed a children's hospital it had helped build in Kabul in 1972 — named Indira Gandhi Institute for Child Health in 1985 — that was in shambles after the war.
- 'Indian Medical Missions' have held free consultation camps in several areas.
- Thousands who lost their limbs after stepping on mines left over from the war have been fitted with the Jaipur Foot.
- India has also built clinics in the border provinces of Badakhshan, Balkh, Kandahar, Khost, Kunar, Nangarhar, Nimruz, Nooristan, Paktia and Paktika.

TRANSPORTATION:

- According to the MEA, India gifted 400 buses and 200 mini-buses for urban transportation, 105 utility vehicles for municipalities, 285 military vehicles for the Afghan Army.

- It also gave three Air India aircraft to Ariana, the Afghan national carrier, when it was restarting operations.

OTHER PROJECTS:

- India has contributed desks and benches for schools, and built solar panels in remote villages, and Sulabh toilet blocks in Kabul.
- New Delhi has also played a role in building capacity, with vocational training institutes, scholarships to Afghan students, mentoring programmes in the civil service, and training for doctors and others.

Various Ongoing Project:

- India had concluded with Afghanistan an agreement for the construction of the Shatoot Dam in Kabul district, which would provide safe drinking water to 2 million residents.
- Last year, India pledged \$1 million for another Aga Khan heritage project, the restoration of the Bala Hissar Fort south of Kabul, whose origins go back to the 6th century.
- Bala Hissar went on to become a significant Mughal fort, parts of it were rebuilt by Jahangir, and it was used as a residence by Shah Jahan.

Bilateral Trade:

- Despite the denial of an overland route by Pakistan, the India-Afghanistan trade has grown with the establishment in 2017 of an air freight corridor.
- In 2019-20, bilateral trade crossed \$1.3 billion.
- The balance of trade is heavily tilted – exports from India are worth approximately \$900 million, while Afghanistan's exports to India are about \$500 million.
- Afghan exports are mainly fresh and dried fruit.
- Some of this comes overland through the Wagah border; Pakistan has permitted Afghan trade with India through its territory.
- Indian exports to Afghanistan take place mainly through government-to-government contracts with Indian companies.
- Exports include pharmaceuticals, medical equipment, computers and related materials, cement, and sugar.
- Trade through Chabahar started in 2017 but is restricted by the absence of connectivity from the port to the Afghan border.

7. China's role in Stabilising Afghanistan

Why in News?

- Amid the gloom that has enveloped Afghanistan, one hope for many countries has been China's potential role in stabilising it.

Factors that call for China to play role in Afghanistan:

- Scope for India-China cooperation: In the past, even India thought that Afghanistan would be a natural area for India and China to work together.
- But little came out of the understanding after the Wuhan summit in 2018.
- China's northern neighbours: Afghanistan's northern neighbours, Turkmenistan, Uzbekistan, and Tajikistan all have expanding political and economic ties with China but have traditionally relied on Russia for their security.
- They might support a larger role for Beijing in Afghanistan in partnership with Russia.
- Iran, Kabul's western neighbour, also has deepening ties with China.
- Bilateral cooperation with the U.S.: Washington, now locked in an escalating confrontation with Beijing, sees Afghanistan as a potential area of bilateral cooperation.
- Role of Pakistan: Beijing is indeed critical in Pakistan's plans for Afghanistan.
- Afghan leaders have also been eager to draw China's BRI into their plans for economic modernisation.
- China was also important for Kabul's political calculus in limiting Pakistan's quest for dominance.

Two challenges in China playing role in stabilising Afghanistan Caution in Chinese policy:

- The first relates to the deep sources of caution in Chinese policy.
- Neither the prospect of mining Afghanistan's natural resources nor the vanity of being the newest superpower will compel China to rush into the Afghan vacuum.
- China has deep concerns about Taliban's ideology and its potential role in fomenting instability in its restive Muslim-majority province, Xinjiang.
- Beijing cannot depend on its special relationship with the Pakistan army to ensure the security of China's frontiers as well as its investments in Afghanistan.
- The growing attacks on CPEC projects in Pakistan, underline the difficulty of pursuing economic development amid endemic violence.

Priorities of Taliban:

- The second set of problems relate to the priorities of Taliban.
- It remains to be seen whether the economic development of Afghanistan is a top priority for the Taliban or not.
- Also, is it open to let in foreign capital and all the baggage that comes with it?
- More fundamentally, there is no clarity on the role of economic modernisation in Taliban's fierce insistence on the creation of an Islamic emirate in Afghanistan.

8. The case for reviving SAARC

Why in News?

- Despite the framework SAARC provides for cooperation amongst South Asian nations, it has remained sidelined and dormant since its 18th summit of 2014 in Kathmandu. No alternative capable of bringing together South Asian countries for mutually beneficial diplomacy has emerged.

Common Challenges facing South Asia:

- The **Region** is beset with unsettled territorial disputes, as well as trans-border criminal and subversive activities and cross-border terrorism.
- The region also remains a theatre for ethnic, cultural, and religious tensions and rivalries besides a current rise in ultra-nationalism
- Nuclear-armed neighbours India and Pakistan are at loggerheads.
- US military withdrawal from Afghanistan has fuelled fears of intensification of these trends.

Significance of SAARC:

- As the largest regional cooperation organisation, SAARC's importance in stabilising and effectively transforming the region is becoming increasingly self-evident.
- SAARC is needed as institutional scaffolding to allow for the diplomacy and coordination that is needed between member-states in order to adequately address the numerous threats and challenges the region faces.
- Though SAARC's charter prohibits bilateral issues at formal forums, SAARC summits provide a unique, informal window — the retreat — for leaders to meet without aides and chart future courses of action.

-
- The coming together of leaders, even at the height of tensions, in a region laden with congenial suspicions, misunderstandings, and hostility is a significant strength of SAARC that cannot be overlooked.
 - In March last year, Indian Prime Minister Narendra Modi seized the Covid-19 crisis and utilised SAARC's seal to convene a video conference of SAARC leaders.
 - Such capacity to bring member-states together shows the potential power of SAARC.

What role SAARC can play in Afghanistan:

- Commitment to get rid of terrorism: The third SAARC summit in 1987 adopted a Regional Convention on Suppression of Terrorism and updated it in 2004 with the signing of an additional protocol.
- These instruments demonstrate the collective commitment to rid the region of terror and promote regional peace, stability, and prosperity.
- Using the network of institutions: In 36 years of existence, SAARC has developed a dense network of institutions, linkages, and mechanisms.
- SAARC members are among the top troop-contributing countries to UN peacekeeping missions.
- Joint peacekeeping force: With the US withdrawal from Afghanistan, a joint peacekeeping force from the SAARC region under the UN aegis could be explored to fill the power vacuum that would otherwise be filled by terrorist and extremist forces.

7. INTERNAL SECURITY & DISASTER MANAGEMENT

1. Getting India's military jointness formula right

- The Chief of Defence Staff General Bipin Rawat's recent description of the Indian Air Force (IAF) as a supporting arm and the IAF chief Air Chief Marshal R.K.S. Bhadauria's rebuttal highlights turbulent journey marking the reorganisation process of the armed forces.

Issues before IAF:

- The IAF is warning against splitting it into packets.
- Reports suggest that counting even ageing aircraft, the IAF is 25% short on fighter squadrons.
- A pan service shortage of about 400 pilots, almost 10% of their authorised strength, further aggravates this.
- Therefore, the IAF has a point when it warns against splitting assets, for, there may be nothing much to split.

Way Forward:

- Confidence building: A common understanding of the nuances of military airpower is the key.
- With the experience of operating almost every kind of aircraft the IAF operates, the naval leadership understands air power.
- This applies to the Indian Army too, in its own way.
- Confidence needs to be developed that rightly staffed apex joint organisations can draw up professional operational plans for air power.
- Enhancing military education: Confidence building will need some effort in the short term towards enhancing professional military education though, at the staff level.
- Analysis before implementation: Major reorganisations must strictly follow the sequence of written concepts, their refinement through consultation, simulation or table top war gaming, field evaluation and final analysis before implementation.
- This would help address command and control, asset adequacy, individual service roles, operational planning under new circumstances and the adequacy of joint structures.

Who gets to lead what also matters.

- The Western Command between the Indian Army and the IAF, the Northern Command with the Indian Army, Maritime Command with the Indian Navy and the Air Defence Command with the IAF may be an acceptable formula.

Why Jointness?

- With dwindling budgets, a steadily deteriorating security situation and the march of technology, the armed forces understand the need to synergise.

Challenges:

- Challenges in co-existence: Different services do not co-exist well where they are colocated.
- Bitter fights over land, buildings, facilities, etc. harms optimal operational synergising.
- Allocation challenge: Then there is the issue of giving each other the best, or of wanting to be with each other.
- Lack of operational charter: The Andaman and Nicobar Command suffered from the lack of a substantial operational charter, and the services not positioning appropriate personnel or resources there.
- Lack of interest in joint tenure: As a joint tenure did not benefit career, no one strove for it.
- The U.S., when faced with the same problem, made joint tenures mandatory for promotions.

Steps to be taken:

- **Security strategy:** We need a comprehensive National Security Strategy to guide the services develop capacities required in their respective domains.
- **Professional Education:** We need to transform professional education and inter-service employment to nurture genuine respect for others.
- **Mutual resolution of difference:** The armed forces must resolve their differences among themselves, as the politicians or bureaucrats cannot do it.
- **Quality staff:** Good quality staff, in adequate numbers, at apex joint organisations, will help to reassure individual services and those in the field that they are in safe hands.
- **Tailored approach:** There is need for the acceptance of the fact that what works for other countries need not work for us.

2. Cloudbursts

Why in News?

- Recently, cloudbursts have been reported from several places in J&K, Ladakh, Uttarakhand and Himachal Pradesh.

What is a Cloudburst?

- Cloudbursts are short-duration, intense rainfall events over a small area.

- According to the IMD, it is a weather phenomenon with unexpected precipitation exceeding 100mm/h over a geographical region of approximately 20-30 square km.

What causes Cloudburst?

- A study published last year studied the meteorological factors behind the cloudburst over the Kedarnath region.
- They analyzed atmospheric pressure, temperature, rainfall, cloud water content, cloud fraction, cloud particle radius, cloud mixing ratio, total cloud cover, wind speed, wind direction, and relative humidity during the cloudburst, before as well as after the cloudburst.
- The results showed that during the cloudburst, the relative humidity and cloud cover was at the maximum level with low temperature and slow winds.
- It is expected that because of this situation a high amount of clouds may get condensed at a very rapid rate and result in a cloudburst.

Impact of climate change:

- Several studies have shown that climate change will increase the frequency and intensity of cloudbursts in many cities across the globe.
- As temperatures increase the atmosphere can hold more and more moisture and this moisture comes down as a short very intense rainfall for a short duration.
- This results in flash floods in the mountainous areas and urban floods in the cities.
- Also, there is evidence suggesting that globally short duration rainfall extremes are going to become more intense and frequent.