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VOLUME - 17, MAY 2021

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Muon's Escalating Challenge to the Standard Model

A Monthly Magazine from

EXCEL CIVILS ACADEMY
NTR Bhavan, Rd. No. 2, Banjara Hills, Hyderabad.
Contact: 91004 33442, 91004 33445

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Director's message

Dear Aspirants,

The second wave of COVID-19 has struck the world at different times but in India, May 2021 proved to be catastrophic as a large number of population all across the country got infected with the infection rate breaching a figure of four lakhs per day resulting in near collapse of the health care system which was already reeling under severe stress due to the first wave. Heart wrenching stories were heard and seen on the social media every day about people dying due to non availability of Oxygen, beds, ventilators and essential medicines. Though testing, tracking and treatment continues to be the fundamental policy, following COVID appropriate behavior and vaccination of the entire vulnerable population is the key to minimize the infections and reduce number of deaths. Various States had to resort to lockdowns once again and impose curbs on certain activities to cut down the transmission rate of the Virus which in turn resulted in slowing down of the economic activities and migration of guest workers to their home towns.

As on date, India recorded a total number of 2.77 Crore infections out of whom 2.52 Crore recovered and 3.23 lakh people succumbed to COVID and other related complications whereas 17 Crore people got infected world wide and 35.3 lakh people succumbed to the Virus. A comparison of weekly testing and positivity rate indicated that 10.4% of the total population tested proved COVID Positive in India. The Virus has been mutating with a new variant B.1.1.7 first identified in UK, followed by B 1.351 in South Africa and B 1.617.2 in India with Vietnam detecting a new coronavirus variant that is a combination of the Indian and UK COVID-19 variants and spreads quickly by air. While the Medical fraternity and Scientists were grappling with the challenge of controlling the Virus, it has thrown up a new challenge of emergence of new opportunistic and rare infections like Mucormycosis, popularly called as 'Black Fungus" and Candidiasis, known as 'White Fungus' and Yellow Fungus. More than 9,000 cases of 'Black Fungus' cases have been reported from the COVID recovered patients from all over the country so far which can prove to be fatal if not diagnosed and treated appropriately. As per the data available, most of these cases have been reported in patients who had comorbidities like uncontrolled diabetes and were administered Steroids as well as indiscriminate use of antibiotics both in Hospitals as well as at home treatment. While the treatment is available, the drug Liposomal Amphotericin B used in the treatment is in short supply and the Government is making all out efforts in ramping up its production.

According to eminent Virologist ShahidJameel, India's second COVID-19 wave seems to have flattened but the climb down will be a more prolonged, long drawn-out process than the first and will possibly run till July, 2021 and said that it is a little too early to say if the Covid wave has peaked.The curve may have flattened but the other side of the peak is not going to be an easy climb down. It's possibly going to be a more prolonged long-drawn-out process running possibly till July, which means, even if the curve starts to decline, we will continue to have to deal with a large number of infections every day.

As India continues to battle the second wave of the Covid-19 pandemic, medical experts have predicted an upcoming third wave which will impact children the most. Many States and Union territories (UTs) have begun to ramp up their health infrastructure to brace for another wave of infections some time August/September.However, some experts felt that there is no clear indication whether children will be severely affected in the third wave of the pandemic. All India Institute of Medical Sciences (AIIMS) Director DrRandeepGuleria said, "It has been said that children will be infected the most in the third wave, but the Paediatrics Association has said that this is not based on facts. It might not impact children so people should not fear". According to DrGuleria, children have been only mildly affected in both the first and second waves of the pandemic but there has been a lot of collateral damage. Children and young adults have suffered a lot of collateral damage due to Covid-19. They are the backbone of the society and the future of the country. Some of the challenges include stress and mental issues, smartphone dependence and addiction, interrupted education opportunities and nutritional issues which needs to be addressed by the Society.

Post first COVID wave, Scientists across the globe have been burning midnight oil to discover appropriate vaccine for countering the pandemic and came out with a few vaccines and all the countries have taken up the task of vaccinating their population. Given numerous constraints like production of vaccine, cold chain management for supply and transportation of the vaccine to the last point of delivery and vaccine hesitancy, India could so far vaccinate only 3.1% of its population fully so far whereas it is committed to vaccinate more than 100 Crores by the end of December 2021 which seems to be a huge task going by the current trend.

With the second wave spreading to the rural areas and third wave likely to hit us in August/September, there is an urgent need to ramp up vaccination of all vulnerable sections of the Society, especially the youth above 18 years and further explore the possibility of vaccinating children above the age of 12 on war footing. It appears that we may have to live with the once in a century pandemic for some more time despite vaccination as the Virus is mutating constantly and appropriate vaccines will have to be invented to arrest the scourge. Till then, everyone has to follow COVID appropriate behavior by avoiding large gatherings, wearing of face masks and sanitization.

Best wishes.

K. Rajendra Kumar IPS (Retd.)

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1. NATIONAL

1.1 Military Farms

- The farms were set up with the sole requirement of supplying hygienic cow milk to troops in garrisons across British India.
- The first military farm was raised on February 1, 1889, at Allahabad.
- Post-independence, the farms flourished with 30,000 heads of cattle in 130 farms all over India.
- They were even established in Leh and Kargil in the late 1990s.

Why are they shutdown?

- The major task was the management of large tracts of defence land, production and supply of baled hay to animal holding units.
- There have been several recommendations in the past to shut down the farms.
- In 2012, the Quarter Master General branch had recommended their closure.
- Again in December 2016 by Lt. Gen. DB Shekatkar (retd) committee was appointed to recommend measures to enhance combat capability and rebalance defence expenditure of the armed forces.

Their significance

- For more than a century, the farms with dedication and commitment supplied 3.5 crore litres of milk and 25,000 MT of hay yearly.
- It is credited with pioneering the technique of artificial insemination of cattle and the introduction of organised dairying in India, providing yeoman service during the 1971 war.
- It also supplied milk at the Western and Eastern war fronts as well as during the Kargil operations to the Northern Command.

Another initiative: Project Freiswal

- It utilizes Friesian-Sahiwal cross-breeds as a base for the evolution of a new milch strain – "Frieswal" – through interbreeding, selection and progeny testing of bulls.
- It was introduced on 3 November 1987 at the Military Farm School and Research Centre in Meerut.
- It had the objective of studying the genetic aspects of Holstein x Sahiwal crossbreeds and those of important indigenous cattle breeds for their improvement through selection.

1.2 AIM-PRIME

- Atal Innovation Mission (AIM), NITI Aayog launched AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship).
- It is an initiative to promote and support science-based deep-tech start-ups & ventures across India.

Key takeaways

- In this regard, AIM has joined hands with Bill & Melinda Gates Foundation (BMGF) to launch this nationwide program.

- It will be implemented by Venture Center – a non-profit technology business incubator.
- The first cohort of the program is open to technology developers with strong science-based deep tech business ideas.
- It is also open to CEOs and Senior incubation managers of AIM Funded Atal Incubation Centers that are supporting deep tech entrepreneurs.

Do you know?

- Deep technology is an outcome of very intense research and development (R&D) with high knowledge content.
- The benefits of this program are aimed at addressing specific issues through training and guidance over a period of 12 months.

1.3 Uniform Civil Code (UCC)

- Chief Justice of India S ABobde recently appreciated the uniform civil code (UCC) in Goa, the only State to have one.
- The CJI urged intellectuals to seriously study the Goa UCC.

About Goa's UCC

- Goa's Portuguese Civil Code, 1867 is basically an alien code given by the Portuguese.
- Goa's Civil Code has four parts, dealing with civil capacity, acquisition of rights, right to property, and the breach of rights and remedies.
- It begins in the name of God and Dom Luis, King of Portugal and Algarves.
- The Code has survived by virtue of Section 5(1) of the Goa, Daman and Diu Administration Act, 1962 that permitted its continuance.
- Article 44 of the Constitution says that there should be a Uniform Civil Code. According to this article, "The State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India". Since the Directive Principles are only guidelines, it is not mandatory to use them.

1.4 Prakash Singh Case: 2006 SC ruling on Police Reforms

- The recent allegations of lobbying by several IPS officers in Maharashtra and of 'power brokers' deciding on postings in nexus with the government shows that Political interference in police postings continues despite the landmark Prakash Singh judgment nearly decade-and-a-half ago.

What is the SC's Prakash Singh judgment on police reforms?

- Prakash Singh, who served as DGP of UP Police and Assam Police besides other postings, filed a PIL in the Supreme Court post retirement, in 1996, seeking police reforms. In 2006, the Supreme Court gave 7 directives with a view to bring in police reforms.

- The Court put on record the deep rooted problems of politicization, lack of accountability mechanisms and systemic weaknesses that have resulted in poor all round performance and fomented present public dissatisfaction with policing.

The directives are –

- Setting up of State Security Commissions (SSC) – lays broad policy guidelines, evaluated performance of State police & ensures State government does not exercise unwarranted pressure
- Fixing the tenure (minimum of two years) and merit based transparent selection of the DGP
- A minimum tenure for the Inspector General of Police
- Separation of investigation and law and order functions
- Setting up of Police Establishment Boards– to decide transfers, postings, promotions and other service related matters of police officers of and below the rank of DySP and make recommendation with these matter of police officers above rank of DySP.
- Creating a Police Complaints Authority- to inquire into public complaints against police officers of and above the rank of DySP
- Forming a National Security Commission– at the union level to prepare a panel for selection and placement of Chiefs of the Central Police Organisations (CPO) with a minimum tenure of two years.

What has been the record of States in implementation of SC directive?

- According to report by Commonwealth Human Rights Initiative (CHRI), the efforts at implementing reforms remain slow, piecemeal and largely regressive. Not even one State was fully compliant with the Apex Court directives
- 18 States passed or amended their Police Acts during this time but not one fully matches legislative models.
- Not a single Union Territory is compliant with the directives, signalling the Central government's non-compliance.
- Only six States provide security of tenure for their police chief and only 13 States have instituted an internal mechanism to enable the police leadership to make decisions on transfers and postings of State police officers without political interference
- The CHRI found that 26 out of 28 States have constituted an SSC either through Police Acts or government orders. While Telangana and Odisha are the only two States that have not established SSCs on paper, Andhra Pradesh and Karnataka are the only States that made the recommendations of the SSC binding.

- The Court's intention in Prakash Singh directive was to vest this internal decision-making firmly in the police leadership. Continued non-compliance with this directive will only further undermine the authority of the police leadership, affect the morale of officers and blur accountability.

1.5 Joint Logistics Node (JLN)

- The Chief of Defence Staff General BipinRawat has operationalized the third Joint Logistics Node (JLN) in Mumbai.
- Other operationalized JLNs are in Guwahati and Port Blair.
- These JLNs will provide integrated logistics cover to the Armed Forces for their small arms ammunition, rations, fuel, general stores, civil hired transport, aviation clothing, spares and also engineering support in an effort to synergise their operational efforts.
- It would accrue advantages in terms of saving of manpower, economical utilization of resources, besides financial savings.
- This is the precursor to the joint logistics command which is being planned and is imperative for the optimization of the combat potential of integrated theatres.
- One of the means to achieve jointness is through the setting up of integrated theatre commands for the best use of military resources to fight future battles.

Integrated Theatre Command:

- An integrated theatre command envisages a unified command of the three Services, under a single commander, for geographical theatres (areas) that are of strategic and security concern.
- The commander of such a force will be able to bear all resources at his disposal—from the Army, the Indian Air Force, and the Navy—with seamless efficacy.
- The integrated theatre commander will not be answerable to individual Services.
- Integration and jointness of the three forces will avoid duplication of resources.
- The resources available under each service will be available to other services too.
- The services will get to know one another better, strengthening cohesion in the defense establishment.
- The Shekatkar committee has recommended the creation of 3 integrated theatre commands— northern for the China border, western for the Pakistan border, and southern for the maritime role.

1.6 National Policy for Rare Diseases

- Caregivers to patients with 'rare diseases' and affiliated organisations are dissatisfied with the National Policy for Rare Diseases, 2021.

What's the issue?

- The policy specifies increasing the government support for treating patients with a 'rare disease'— from ₹15 lakh to ₹20 lakh. But, caregivers say this doesn't reflect actual costs of treatment.

- Advocacy groups, however, have expressed concerns about the lack of funding support in the policy for patients diagnosed with life-threatening rare, genetic disorders.

Highlights of the National Policy for Rare Diseases, 2021:

- Patients of rare diseases will soon be eligible for a one-time treatment under the Ayushman Bharat PradhanMantri Jan ArogyaYojana (AB-PMJAY).
- Beneficiaries for financial assistance would not be limited to below poverty line (BPL) families, but extended to about 40% of the population, who are eligible as per 23 norms of PradhanMantri Jan ArogyaYojana (PMJAY), for their treatment in Government tertiary hospitals only.
- The policy has categorised rare diseases in three groups – disorders amenable to one-time curative treatment; those requiring long term or lifelong treatment; and diseases for which definitive treatment is available but challenges are to make optimal patient selection for benefit.

What is a rare disease?

- A rare disease, also referred to as an orphan disease, is any disease that affects a small percentage of the population.
- Most rare diseases are genetic, and are present throughout a person's entire life, even if symptoms do not immediately appear.
- The commonly reported rare diseases, include:
- Primary immunodeficiency disorders, Lysosomal storage disorders (Gaucher's disease, Mucopolysaccharidoses, Pompe disease, fabry disease etc.) small molecule inborn errors of metabolism (Maple Syrup urine disease, organic acidemias, etc.), cystic fibrosis, osteogenesisimperfecta, certain forms of muscular dystrophies, and spinal muscular atrophy.

1.7 Haryana's quota law

- Haryana's private job reservation law which provides 75 per cent employment opportunities in private sector for people belonging to the state will come into force from May 1.
- About Haryana State Employment of Local Candidates Bill, 2020:
- It requires private companies to set aside for domiciles 75% of jobs up to a monthly salary of Rs 50,000 or as may be notified by the government from time to time.
- The law is applicable to all the companies, societies, trusts, limited liability partnership firms, partnership firms and any person employing 10 or more persons and an entity, as may be notified by the government from time to time shall come under the ambit of this Act.

What are the legal issues in such laws?

- The question of domicile reservation in jobs: While domicile quotas in education are fairly common, courts have been reluctant in expanding this to public employment. It raises questions relating to the fundamental right to equality of citizens.

- The issue of forcing the private sector to comply with reservations in employment. For mandating reservation in public employment, the state draws its power from Article 16(4) of the Constitution. But, the Constitution has no manifest provision for private employment from which the state draws the power to make laws mandating reservation.
- It may not be able to withstand judicial scrutiny on the touchstone of Article 19(1)(g).

What is the government's rationale in bringing such laws?

- Public sector jobs constitute only a minuscule proportion of all jobs. Therefore, talks about extending the legal protections to the private sector to really achieve the constitutional mandate of equality for all citizens has been on.
- Since private industries use public infrastructure in many ways — from accessing land through subsidised allotment to receiving credit from public banks, tax exemptions and in many cases subsidies for fuel etc, the state has a legitimate right to require them to comply with the reservation policy.

Do other countries take such affirmative action in employment?

- Affirmative action is adopted in many countries in the context of race and gender.
- For example, in the US, although there is no statutory requirement for employers to have quotas, courts can order monetary damages and injunctive relief, including "such affirmative action as may be appropriate", for victims of discrimination.
- The Employment Equity Act in Canada also protects minority groups, especially aboriginals from discrimination in federally regulated industries, even in the private sector.

Concerns and challenges ahead:

- It poses challenges for industrial development and private investment in Haryana.
- It could also provide a shield to some firms indulging in unethical practices to retrench the existing workforce.
- Investors and businesses may start moving out of the state in search for best human resources.
- Against the spirit of the Constitution, which gives citizens of India the freedom to work anywhere in the country.

1.8 Draft amendment to Forest Conservation Act

- The Union Ministry of Environment, Forest and Climate Change has proposed several amendments to the Forest (Conservation) Act, 1980 (FCA).

Draft amendments:

- They propose to grant exemptions to railways, roads, tree plantations, oil exploration, wildlife tourism and 'strategic' projects in forests.

- They seek to empower state governments to lease forest land to private individuals and corporations.
- Amendments seek to complete the process of forest identification in a time-bound manner.
- They also propose to enable the creation of 'no-go' areas, where specific projects would not be allowed.

What's the issue and concern?

- If the proposed amendments come into force, they would dilute the provisions of the landmark 1996 decision of the Supreme Court in Godavarman case (TN GodavarmanThirumulkpadvs Union Of India &Ors).
- The case had started off as a petition to stop illegal felling of timber in the Nilgiri hills, but ended up expanding the coverage of the FCA.
- The proposed amendment purportedly seeks to reduce the scope of this judgment by limiting the applicability of the FCA to only such land that has been:
- Declared or notified as forest under the Indian Forest Act, 1927.
- Recorded as forest land in the government record prior to 25 October 1980, with the exception of such land if its use has been changed from forest to non-forest purpose prior to 12 December 1996.
- Identified as "forest" by a state government expert committee up to one year from the date of the amendment.

About the Forest (Conservation) Act, 1980:

- The FCA is the principal legislation that regulates deforestation in the country.
- It prohibits the felling of forests for any "non-forestry" use without prior clearance by the central government.
- The clearance process includes seeking consent from local forest rights-holders and from wildlife authorities.
- The Centre is empowered to reject such requests or allow it with legally binding conditions.

1.9 <u>Sankalp Se Siddhi</u>

- "Sankalp se Siddhi" – Village and Digital Connect Drive was recently launched by TRIFED under the Ministry of Tribal Affairs

Key takeaways

- It is a 100 day drive which was started from April 1, 2021.
- It will entail 150 teams visiting ten villages each.
- Aim: To activate the Van DhanVikasKendras in these villages.

- The visiting teams will also identify locations and shortlist potential Van DhanVikasKendras for clustering as TRIFOOD, and Scheme of Fund for Regeneration of Traditional Industries- (SFURTI) units as larger enterprises.
- TRIFOOD aims to enhance the income of tribals through better utilization of and value addition to the Minor Forest Produce collected by the tribal forest gatherers.

1.10 Tribunal Reforms Ordinance 2021

- Recently President of India promulgated Tribunal Reforms Ordinance 2021 or Tribunal Reforms (Rationalisation and Conditions of Service) Ordinance 2021. The Ordinance dissolves certain existing appellate bodies and transfers their appellate authority to other Judicial Bodies. Further, the ordinance also amends the Finance Act 2017.
- The government also introduced the Bill in LokSabha on the same subject. The bill also aims to achieve aims similar to the ordinance. The government introduced the ordinance for improving the quality of Justice, But the ordinance also takes away few advantages associated with the Tribunals.

What are Tribunals?

- The Tribunal is a quasi-judicial institution. They were set up to deal with problems such as resolving administrative or tax-related disputes.
- Initially, Tribunals were not a part of the Constitution. Swaran Singh Committee recommended including Tribunals as a part of the Constitution.
- Based on that, the 42nd Amendment Act, 1976 provided constitutional status to Tribunals. Tribunals were placed under Part XIV-A.

This part has only two articles:

- Article 323-A deals with Administrative Tribunals. These tribunals resolve disputes related to the recruitment and service conditions of persons engaged in public service.
- Article 323-B deals with tribunals for other matters. These tribunals resolve disputes related to Taxation, Foreign exchange, Industrial and labour, Land reforms, import and export, Food, Ceiling on urban property, etc.

Changes to the Finance Act 2017

- Apart from these changes, the ordinance also amended the Finance Act to include the following changes.
- The ordinance empowers the Central Government to make rules for qualifications, appointment, term of office, salaries and allowances, resignation, removal, and other terms and conditions of service of Members of Tribunals.

- Search-cum-Selection Committee: The ordinance also provides that the central government will appoint the Chairperson and Members of the Tribunals. A Search-cum-Selection Committee will make the recommendations for such appointments.
- Tenure: Now, The tenure of Chairperson of a Tribunal is for a term of four years or till the age of 70, whichever is earlier. Members of a tribunal will also have a tenure of four years or until they turn 67.

1.11 Chenab Arch Bridge

- The bridge is part of an ambitious 272-km rail link project and is being constructed by the Northern Railway at an estimated cost of ₹28,000 crores.
- The bridge will be able to withstand earthquakes with a magnitude of up to eight and high-intensity blasts.
- The bridge, which will include a 14-metre dual carriageway and a 1.2-metre-wide central verge, will have a design speed of around 100 kilometres per hour with a lifespan of 120 years.

Its inception

- The preparations of the rail link began in 2002 and the initial plan was to connect Kashmir's northernmost city Baramulla to New Delhi.
- Work on the bridge started again in July 2017 with the aim of completing the construction by the end of 2019 but due to contractual issues in 2018, it was delayed.
- Steel was specifically chosen for the construction of the bridge as it will make the project more economical.
- The metal will also be able to resist temperatures of minus 20 degree Celsius and wind speeds of above 200 kilometres per hour.

Significance

- A railway bridge like this, with this kind of geography, has not been made anywhere in the world, according to the Railways.
- It will symbolise the Kashmir rail link, to be ready for at least a century.
- In other words, a train from Kanyakumari can reach all the way to Kashmir uninterrupted.
- The cable crane that will do the job of completing the arch itself measures around 900 meters and is said to be the longest in the world, made especially for this project.

1.12 Draft Migrant Labour Policy

- NITI Aayog, along with a working subgroup of officials and members of civil society, has prepared a draft National Migrant Labour policy.

- Draft policy puts forward several radical ideas including the adoption of a rights-based approach and creating an additional layer of institutions to create a more enabling policy environment for migrants.

Proposals of draft policy

- It proposes a new National Migration Policy and the formation of a special unit within the Ministry of Labour and Employment to work closely with other ministries

- The new structure would bring about much-needed convergence across line departments and would be a huge step towards a universal understanding of the causes and effects of migration as well as the interventions needed.

- The policy calls for improving the record on the implementation of the country's many labour laws that have, by and large, failed to make a difference to the lives of labour migrants.

- The draft policy is clear in highlighting the vulnerability of migrants to such crises and describes the experience of migrants during the lockdown as a "humanitarian and economic crisis".

- The draft contains several radical recommendations that build on those made in 2017 by the working group on migration appointed by the then Ministry of Housing and Urban Poverty Alleviation, as well as recent research and policy analyses by leading thinkers in the field.

- It seeks to take a rights-based approach and discusses the importance of collective action and unions to help migrants bargain for better conditions and remuneration.

- The draft policy makes efforts to bring together different sectoral concerns related to migration, including social protection, housing, health and education. In doing so, it will lay the foundations for the ministries and line departments overseeing these sectors to work together in a more harmonious fashion, speaking the same language and operating on the same underlying assumptions.

- The draft mentions the need for convergence across different line departments and proposes the establishment of a special unit at the Ministry of Labour and Employment which will work closely with other ministries. It proposes new management bodies for interstate migration and stresses the need to improve the data on migration, especially data on seasonal and circular migration.

- The draft policy also conveys a willingness within government to recognise that the numerous laws and legislation that are in existence have not succeeded in protecting migrants as intended and recommends better implementation.

Concerned Issues

- The policy needs to delve deeper into the causes underlying the poor implementation of labour laws that are linked to the political economy of recruitment and placement

- There is a reference to unfair recruitment practices in the document, but virtually no analysis of why the system persists and how it is enabled by the employment structure of businesses and enterprises.
- Another area where the draft needs to be strengthened is addressing gender differences in employment. Domestic work is one of the most important occupations for migrant women from relatively disadvantaged backgrounds. Although the new policy aims to be inclusive of all kinds of marginalised migrants, it could do more to explicitly mention the challenges faced by the workers in such circumstances.
- Yet another miss is the apparent ambivalence about the ability of tribal migrants to think for themselves and decide how they access the opportunities offered by migration.

Conclusion

- The draft policy is a good start which could, with a few adjustments, reduce the vulnerability and risks faced by labour migrants and ultimately build a more sustainable model of development.

1.13 FCAT

- The Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021, issued by the Ministry of Law and Justice.

Film certification:

- Films meant for distribution in theatres require to be certified as 'U' (unrestricted public exhibition), 'UA' (unrestricted public exhibition subject to parental guidance for children below the age of 12), 'A' (restricted to adult audiences) or 'S' (restricted to specialised audiences such as doctors or scientists) by the Central Board of Film Certification (CBFC).

Concerns with the process:

- According to observers, the CBFC was increasingly getting stacked with people close to the ruling dispensation. Of late, the body has been headed by chairpersons who have ruled with a heavy hand and ordered cuts to films critical of the government.
- The clash between the film fraternity and the certification body became more pronounced over the years. Such moves have been criticized for being against the constitutional right of freedom of express

Film Certificate Appellate Tribunal:

- The Film Certificate Appellate Tribunal (FCAT) was established in 1983 as a statutory body under The Cinematograph Act.
- FCAT had been set up to hear appeals of filmmakers against decisions of the Central Board of Film Certification.

Significance:

- The FCAT has been envisaged as a buffer for filmmakers. Before the FCAT, filmmakers had no option but to approach the court to seek redressal against CBFC certifications or suggested cuts.

- The FCAT has often stepped in to sort out disputes between the CBFC and the filmmakers.

- Though the decisions taken by the FCAT were not beyond reproach, the FCAT could be credited with taking quick decisions.

- Among other objectives, the rationale for setting up the FCAT was to reduce the burden on courts by functioning as an appellate body.

Details:

- The ordinance scraps the Film Certification Appellate Tribunal (FCAT), a statutory body that had been set up to hear appeals of filmmakers against decisions of the Central Board of Film Certification (CBFC), and transfers its function to other existing judicial bodies.

- The ordinance has amended The Cinematograph Act, 1952, and replaced the word 'Tribunal' with 'High Court'.

- Eight other appellate authorities have also been disbanded with immediate effect.

Reasons for the ordinance:

- The move to abolish the FCAT along with other tribunals follows a Supreme Court order in Madras Bar Association vs. Union of India.

- The two-member Bench had directed the government to constitute a National Tribunals Commission.

- The National Tribunals Commission was envisaged to act as an independent body to supervise the appointments and functioning of Tribunals, as well as to conduct disciplinary proceedings against members of Tribunals and to take care of administrative and infrastructural needs of the Tribunals, in an appropriate manner.

- The Supreme Court's recommendations were intended to strengthen the functioning of the tribunals by addressing the issue of dependence of tribunals on the executive for administrative requirements.

1.14 MadhuKranti Portal

- The Union Minister for Agriculture and Farmers' Welfare has launched "MadhuKranti Portal & Honey Corners.

MadhuKranti Portal:

- It is an initiative of the National Bee Board (NBB), Ministry of Agriculture and Farmers Welfare under the National Beekeeping &Honey Mission (NBHM).

- This portal is being developed for online registration to achieve a traceability source of Honey and other beehive products on a digital platform.

- The platform will help in checking the quality and source of adulteration of honey.

- The portal will help in increasing the income of the farmers, boost exports and increase employment generation.
- The portal will hold the database of all the stakeholders involved in honey production, marketing chains, hive production, and sales.
- It will increase the reach of honey to international markets.

Honey Corners:

- Honey Corners are special spaces for the marketing and sale of honey.
- It is operated by the National Agricultural Cooperative Marketing Federation of India Ltd (NAFED).

1.15 Appointment Of Ad-Hoc Judges In High Courts

- The Supreme Court cleared the way for the appointment of retired judges as ad-hoc judges in High Courts under Article 224A of the Constitution to deal with the mounting backlog of cases.
- Terming pendency of around 57 lakh cases in High Courts as "docket explosion", the Supreme Court activated a "dormant" constitutional provision to pave way for the appointment of retired High Court judges as ad-hoc ones for a period of two to three years to clear the backlog.
- Article 224A, used rarely, of the Constitution deals with the appointment of ad-hoc judges in High Courts.
- It says "the Chief Justice of a High Court for any State may at any time, with the previous consent of the President, request any person who has held the office of a Judge of that Court or of any other High Court to sit and act as a Judge of the High Court for that State".

Procedure to be followed:

- Under the Article, the Chief Justice of a High Court for any State may at any time, with the previous consent of the President, request any person who has held the office of judge of that court or of any other High Court to sit and act as a judge of the High Court for that State.
- Such a judge is entitled to such allowances as the president may determine. He will also enjoy all the jurisdiction, powers and privileges of a judge of the Supreme Court. But, he will not otherwise be deemed to be a judge of the Supreme Court.

1.16 Durbar move

- A tradition of a century and a half is set to be broken in Jammu and Kashmir, with only "sensitive records" being taken from Jammu to Srinagar this summer during the "Durbar Move".

Durbar Move

- Durbar Move is a bi-annual shifting of the Civil Secretariat and other offices of the State government from Jammu to Srinagar in summer, and vice versa in winter.

- This is done as Jammu & Kashmir has two capitals: Kashmir during summer and Jammu during winter.
- In Jammu, offices shut on the last Friday and Saturday of April and reopen in Srinagar on the first Monday after a gap of a week.
- In Kashmir, offices shut on the last Friday and Saturday of October, to reopen in Jammu on the first Monday after a week's gap, in November.

Why?

- Durbar Move is a tradition started 149 years ago started by the erstwhile Dogra rulers who hailed from Jammu but had expanded their boundaries to Kashmir including what is now Pakistan-occupied Kashmir, and Ladakh.
- Jammu, Kashmir and Ladakh are very different from one another geographically, linguistically and culturally, and in those days were poorly connected by road.
- It is generally understood that the Durbar Move was started to take the administration to the doorstep of the people of Kashmir which is closer to Ladakh.
- During summer, ruling from Kashmir also helped in ensuring adequate supplies to Ladakh, which is closer to Kashmir than Jammu, before the winter snowfall would cut off Ladakh.
- The practice also enabled greater interaction and bonding among the people of Jammu, Kashmir and Ladakh.

The effort

- Until 2019, the administration used to engage hundreds of trucks and buses for carrying office records and officials from one capital city to another.
- For safe transportation, the Jammu & Kashmir police and paramilitary forces would dominate the entire Jammu-Srinagar national highway.
- Apart from the expenses incurred on hiring trucks and buses, the moving staff also used to be paid TA and DA, besides arrangements for their accommodation.

The criticism

- Voices of protest started during the late 1980s, over the amount of money and time spent on the exercise.
- However, the practice also enjoyed public support.
- In recent years, many criticised the government for spending nearly Rs 200 crore on this exercise every year when it did not have enough funds even to pay salary to its employees.
- Last year, the Jammu & Kashmir High Court observed that there was no legal justification or constitutional basis for the Darbar Move tradition.

- The court recommended that in case the practice was rationalized, the resources and time saved could be utilized towards the welfare and development of the UT.

- The money saved could also be used to address Covid-related issues like food shortage, unemployment and healthcare.

What next?

- The UT government has decided to switch to e-governance, will all office records converted into digital format.

- As a result, while the Secretariat employees and some offices will move from Jammu to Srinagar, as usual, this year, only sensitive records will be shifted from one place to another.

1.17 SARTHAQ Plan

- Union Education Minister has launched 'Students' and Teachers' Holistic Advancement through Quality Education (SARTHAQ), the National Education Policy (NEP) 2020 implementation plan for school education.

SARTHAQ

- SARTHAQ keeps in mind the concurrent nature of education and adheres to the spirit of federalism.

- The plan delineates the roadmap for the implementation of NEP 2020 for the next 10 years.

- States and Union Territories have been given the flexibility to adapt the plan with "local contextualization".

- They have been allowed to modify the plan as per their needs and requirements.

Envisaged outcomes

- Increase in Gross Enrolment Ratio (GER), Net Enrolment Ratio (NER), transition rate and retention rate at all levels and reduction in dropouts and out of school children.

- Access to quality ECCE and Universal Acquisition of Foundational Literacy and Numeracy by Grade 3.

- Improvement in Learning Outcomes at all stages with an emphasis on teaching and learning through mother tongue/local/regional languages in the early years.

- Integration of vocational education, sports, arts, knowledge of India, 21st-century skills, values of citizenship, awareness of environment conservation, etc. in the curriculum at all stages.

- Introduction of Experiential learning at all stages and adoption of innovative pedagogies by teachers in classroom transaction.

- Integration of technology in educational planning and governance and availability of ICT and quality e-content in classrooms.

1.18 Civil Defence Volunteers

- The Delhi Police recently issued a statement, pointing out that civil defence personnel, also known as Delhi Civil Defence (DCD) volunteers, have no power to stop people using police barricades and prosecute them for violation of Covid-19 appropriate behaviour such as not wearing masks.
- From being lauded for their work during the pandemic to facing allegations of high-handedness, the role of the civil defence volunteers in the national capital has come under intense scrutiny in the recent past.
- One such incident recently turned into a full-blown fistfight between a group of civil defence personnel and the general public near IIT-Delhi.
- In Delhi, these are men and women who work under the command of the District Magistrates.
- The overall command lies with the Divisional Commissioner, to whom the DMs report.
- These volunteers are governed by the Civil Defence Act, 1968.
- According to the Civil Defence Act, 1968, civil defence is defined as any measure "not amounting to actual combat, that protects persons, property and places in India from hostile attack".
- The 2010 amendment expanded the definition by including disaster management as one of the responsibilities.

The basic role of the volunteers:

- To assist the local administration. During the pandemic, the volunteers assumed the role of frontline workers by way of participating in screening hotspots and distributing food for the needy.
- In recent months, DCD volunteers have also been deployed to ensure social distancing in markets and other crowded places and also at vaccination sites.

1.19 Gyanvapi Mosque

- The recent ruling by Varanasi civil court in the Gyanvapi Mosque dispute threatens the secular feature of India.

Background

- Earlier, the representatives of the Hindu faith had filed a petition to reclaim the Gyanvapi mosque land.
- Now, a Civil Court in Varanasi directed the Archaeological Survey of India (ASI) to conduct a survey. In that, the ASI will confirm whether the Gyanvapi mosque was built over a demolished Hindu temple or not.
- But any attempt to bring back the buried disputes is a threat to secularism and peaceful coexistence

What does the Places of Worship Act 1991 say in this regard?

- The Places of worship Act declares that the religious character of a place of worship shall continue to be the same as it was on August 15, 1947.

- It says no person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- Exemptions under the Act: There are few exceptions under the Act. Such as,
- The Act will not apply to ancient and historical monuments and archaeological sites. Because these are covered under the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- The Act exempted the Ram Janmabhoomi-Babri Masjid dispute.

Challenges with the recent Case:

- One, it will open the floodgates for another prolonged religious dispute.
- Two, the order is a gross violation of the Place of worship act that prohibits any litigation over the status of places of worship.
- Three, the Allahabad High Court reserved its order on the maintainability of the suit on March 15. Further, the High Court is yet to pronounce its ruling. So, the implementation of the judgement might change after the High Court Judgement.

1.20 Places of Worship Act, 1991

- Experts have pointed out that the Places of Worship Act, 1991, prohibited inquiry into religious places such as Kashi and Mathura.

What's the issue?

- This comes after a Varanasi court recently ordered an ASI enquiry at the KashiVishwanath Temple-Gyanvapi Mosque premises.
- Experts have also questioned if a civil court judge was competent to give such a direction against a law upheld by a Constitutional bench of the Supreme Court.
- About the Places of Worship Act, 1991:
- The Act declares that the religious character of a place of worship shall continue to be the same as it was on August 15, 1947.
- It says no person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- It declares that all suits, appeals or any other proceedings regarding converting the character of a place of worship, which are pending before any court or authority on August 15, 1947, will abate as soon as the law comes into force. No further legal proceedings can be instituted.

Objectives of the Act:

- To freeze the status of any place of worship as it existed on August 15, 1947.
- To provide for the maintenance of the religious character of such a place of worship as on that day.
- To pre-empt new claims by any group about the past status of any place of worship and attempts to reclaim the structures or the land on which they stood.

Exceptions:

- These provisions will not apply to:

- Ancient and historical monuments and archaeological sites and remains that are covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958.

- A suit that has been finally settled or disposed of; and any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.

- The Act also does not apply to the place of worship commonly referred to as Ram Janmabhoomi-Babri Masjid in Ayodhya. This law will have overriding effect over any other law in force.

1.21 Ken-Betwa project

- Congress president Sonia Gandhi has written to Union environment minister PrakashJavadekar, asking him not to implement the Ken-Betwariver linking project.

- It is because Panna Tiger reserve will be damaged by the river linking project. The state government's open estimate is that around 40 per cent of the area of the tiger reserve will be irretrievably damaged.

- Background:

- Union jalshakti minister Gajendra Singh Shekhawat signed a tripartite agreement with the states of Uttar Pradesh and Madhya Pradesh on the occasion of World Water Day to start the work on India's first major river interlinking project that will connect the Ken and the Betwa Rivers.

- The Memorandum of Agreement (MoA) was signed almost 18 years after the idea of the project was conceived owing to disagreement between the two states over sharing of water.

Booster shot Key aspects of the ₹18,000 crore Ken Betwa river interlink project

- The Ken Betwa project will transfer surplus water from the Ken river to the Betwa basin to help irrigate the drought-prone Bundelkhand region and the adjoining areas
- The 230 km concrete canal will pass through Jhansi, Banda and Mahoba districts of U.P. and Tikamgarh, Panna and Chatarpur districts of M.P.
- The project will also benefit U.P. and M.P in terms of meeting their irrigation and drinking water needs
- **Hazards:** The project involves deforesting a portion of the Panna Tiger reserve (approximately 10%) in M.P.

MAP SOURCE: NATIONAL WATER DEVELOPMENT AGENCY

About Ken- Betwa project:

- The project aims to transfer surplus water from the Ken river in MP to Betwa in UP to irrigate the drought-prone Bundelkhand region spread across the districts of two states mainly Jhansi, Banda, Lalitpur and Mahoba districts of UP and Tikamgarh, Panna and Chhatarpur districts of MP.

Key facts:

- Ken and Betwa rivers originate in MP and are the tributaries of Yamuna.

- Ken meets with Yamuna in Banda district of UP and with Betwa in Hamirpur district of UP.

- Rajghat, Paricha and Matatila dams are over Betwariver.

- Ken River passes through Panna tiger reserve.

1.22 Plea to decriminalise begging

- The Supreme Court has asked Centre and four States to respond to a plea to decriminalise begging. These states include Maharashtra, Gujarat, Punjab and Haryana.

- Background:

- The court, in February 2021, sought a response from the Centre, and five States on the plea which claimed that the sections of the statute criminalising begging were violative of constitutional rights.

What's the case?

- The plea has referred to the August 2018 verdict of the Delhi High Court which had decriminalised begging in the national capital and said provisions of the Bombay Prevention of Begging Act, 1959, which treats begging as an offence cannot sustain constitutional scrutiny.

- It argues that the provisions of the statutes criminalising the act of begging put people in a situation to make an unreasonable choice between committing a crime or not committing one and starving, which goes against the very spirit of the Constitution and violates Article 21 i.e. Right to Life.

Other Issues involved:

- As per the Census 2011, the total number of beggars in India is 4,13,670 and the number has increased from the last census.

- The government has the mandate to provide social security to everyone and ensure that all had basic facilities, as embedded in the Directives Principles of State Policy in the Constitution. However, the presence of beggars is evidence that the state has failed to provide these basic facilities to all its citizens.

- Therefore, instead of working on its failure and examining what made people beg, criminalising the act of beggary is irrational and against the approach of a socialist nation as embedded in the preamble of our Constitution.

- Begging is also a peaceful method by which a person sought to communicate their situation to another, and solicit their assistance. Thus, criminalising begging is violative of Article 19(1)(a)- freedom of speech guarantee.

Beggary Laws In India:

- There is no central Act on beggary, however, many States and Union Territories have used certain sections of the Bombay Prevention of Beggary Act, 1959, as the basis for their own laws. The Act, 1959 criminalises begging.
- Through these legislations, the governments try to maintain public order, addresses forced begging or "begging rackets", prevent annoyance to tourists.

1.23 Freedom to choose religion

- The Supreme Court has said people are free to choose their own religion and lashed out at a PIL claiming that there is mass religious conversion happening across the country.

Right to freedom of Religion

- Article 25 of the Constitution guarantees freedom of religion to all persons in India. It provides that all persons in India, subject to public order, morality, health, and other provisions:
- -Are equally entitled to freedom of conscience, and
- -Have the right to freely profess, practice and propagate religion.
- It further provides that this article shall not affect any existing law and shall not prevent the state from making any law relating to:
- Regulation or restriction of any economic, financial, political, or secular activity associated with religious practice.
- Providing social welfare and reform.
- Opening of Hindu religious institutions of public character for all the classes and sections of the Hindus.

What did the Supreme Court say?

- Instead, a Bench led by Justice Rohinton F. Nariman said people have a right under the Constitution to profess, practise and propagate religion.
- Justice Nariman said every person is the final judge of their own choice of religion or who their life partner should be. Courts cannot sit in judgment of a person's choice of religion or a life partner.
- Religious faith is a part of the fundamental right to privacy.
- Justice Nariman reminded Mr Upadhyay of the Constitution Bench judgment which upheld inviolability of the right to privacy, equating it with the rights to life, dignity and liberty.

1.24 Chief Election Commissioner

- Sushil Chandra has assumed charge as the 24th chief election commissioner of India.

About Election commission of India:

- The constitution under article 324 provides for an Election Commission for the superintendence, direction and control of the preparation of the electoral rolls for the conduct of elections to parliament, state legislatures and to the offices of president and vice president.

Composition Election commission of India:

- The constitution provides for the following provisions in relation to the composition of the election commission:
- The election commission shall consist of the Chief Election Commissioner and a such number of other election commissioners, if any, as the president may from time to time fix.
- The appointment of the chief election commissioner and other election commissioners shall be made by the president.
- When any other election commissioner is so appointed the chief election commissioner shall act as the chairman of the election commission.
- The president may also appoint after consultation with the election commission such regional commissioners as he may consider necessary to assist the election commission.
- The conditions of service and tenure of office of the election commissioners and the regional commissioners shall be such as the President may by rule determine.

CEC vs ECs:

- Though the Chief Election Commissioner is the chairman of the election commission, however, his powers are equal to the other election commissioners. All the matters in the commission are decided by the majority amongst its members. The Chief Election Commissioner and the two other election commissioners receive equal salary, allowances and other benefits.

  Tenure:

- The Chief Election Commissioner and other election commissioners hold office for 6 years or till they attain the age of 65 years, whichever is earlier. They can resign at any time by addressing their resignation to the president.

  Removal:

- They can resign anytime or can also be removed before the expiry of their term.
- The Chief Election Commissioner can be removed from his office in the same manner and on same grounds as a judge of the Supreme Court.

1.25 Draft Cycling Policy of Chandigarh

- Chandigarh's recently released first-of-its-kind draft cycling policy.
- It is for the first time that a city has drafted a cycling policy in India. The policy has been drafted by the Chandigarh Smart City Limited.

Highlights of the Draft:

- Safe refuge points equipped with panic buttons for women cyclists.
- Parking space with roof outside offices.
- Half-a-day earned leave for every seven days cycled to work.

- The monetary incentive for a particular distance traveled.

- Increase in non-motorized transport lanes to reduce fear of accidents.

- Each government office/private body of all types must have a separate policy to encourage commuting to work by cycle.

- To enhance safety, safe refuge points for women and persons with disabilities should be created by introducing 24X7 CCTV surveillance and panic buttons.

1.26 Register of Indigenous Inhabitants of Nagaland (RIIN)

- An apex body of Naga tribes has asked the Nagaland government not to be hasty with the exercise to prepare the Register of Indigenous Inhabitants of Nagaland (RIIN), seen as a variant of Assam's National Register of Citizens.

Register of Indigenous Inhabitants of Nagaland (RIIN)

- The Government of Nagaland has decided to set up a Register of Indigenous Inhabitants of Nagaland (RIIN) with the aim of preventing fake indigenous inhabitants' certificates.

- The RIIN will be the master list of all indigenous inhabitants of the state.

How will the list be prepared?

- The RIIN list will be based on "an extensive survey".

- It will involve official records of indigenous residents from rural and (urban) wards and would be prepared under the supervision of the district administration.

- The preparation of the list will start from July 10, 2019, and the whole process will be completed within 60 days from the start.

- Designated teams of surveyors will be formed within seven days from the date of publication of the notification, and thereafter these teams will be sent across each village and ward.

- The database will note each family's original residence, current residence as well as the concerned Aadhaar.

What is the review procedure?

- Respondents will be given an opportunity to make their case before the authorities.

- Eventually, respective Dy. Commissioners will adjudicate on the claims and objections based on official records and the evidence produced.

- This process will be completed before December 10, 2019.

- Unique identity through Indigenous Inhabitant Certificate

- Based on the adjudication and verification, a list of indigenous inhabitants will be finalised and each person will be given a unique ID.

- The final list or the RIIN will be created and its copies will be placed in all villages and ward.

- Electronic copies of the list will also be stored in the State Data Centre. A mechanism or electronic and SMS-based authentication will be put in place.
- All indigenous inhabitants of the state would be issued a barcoded and numbered Indigenous Inhabitant Certificate.
- The process will be conducted across Nagaland and will be done as part of the online system of Inner Line Permit (ILP), which is already in force in Nagaland.

Inner Line Permit (ILP)

- ILP is an official travel document required by Indian citizens residing outside certain "protected" States while entering them.
- The ILP is issued by the Govt. of India and is obligatory for all those who reside outside the protected states.
- With the ILP, the government aims to regulate movement to certain areas located near the international border of India.
- ILP's origin dates back to the Bengal Eastern Frontier Regulations, 1873, which protected the British Crown's interest in tea, oil and elephant trade.
- It prohibited "British subjects" or Indians from entering these protected areas.
- After Independence, in 1950, the word "British subjects" was replaced by Citizens of India and the focus of the ban on free movement was explained as a bid to protect tribal cultures in northeastern India.

1.27 PoshanGyan

- PoshanGyan was launched recently.
- It is a national digital repository on health and nutrition.
- It was launched by NITI Aayog, in partnership with Bill and Melinda Gates Foundation and Centre for Social and Behaviour Change, Ashoka University.

Key takeaways

- The PoshanGyan repository is conceptualized as a resource.
- It shall enable search of communication materials on 14 thematic areas of health and nutrition across diverse languages, media types, target audiences and sources
- Content for the repository was sourced from the Ministries of Health and Family Welfare and Women and Child Development and developmental organizations
- It introduces a unique crowdsourcing feature that allows anyone to submit communication material for inclusion on the website, followed by a review by a designated committee.

1.28 e-SANTA

- It is an electronic marketplace providing a platform to connect aqua farmers and buyers.

- Launched by Union Commerce Ministry.
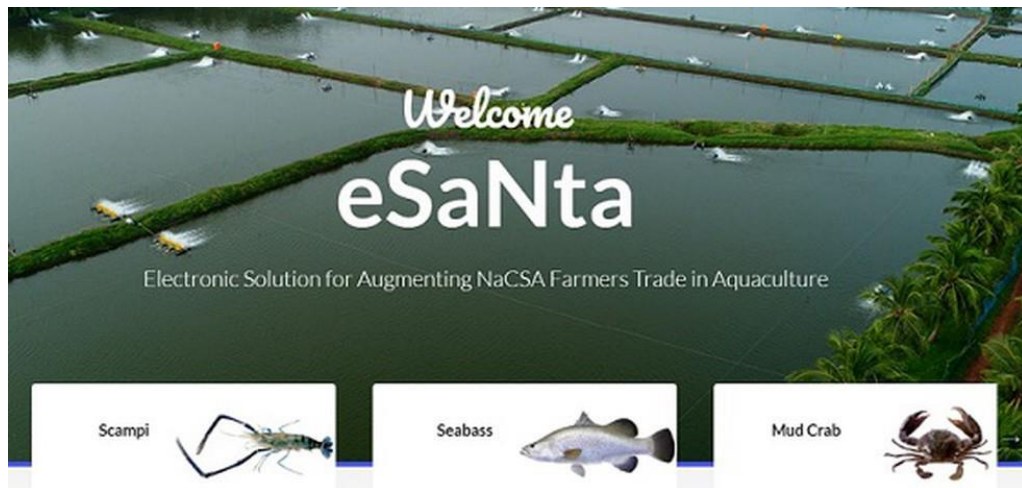
- It will enable the farmers to get a better price and the exporters to directly purchase quality products from the farmers enhancing traceability, a key factor in international trade.
- The term e-SANTA was coined for the web portal, meaning Electronic Solution for Augmenting NaCSA farmers' Trade-in Aquaculture.
- e-SANTA will 'RAISE' the lives & income of farmers by Reducing Risk, Awareness of Products & Markets, Increase in Income, Shielding Against Wrong Practice and Ease of Processes.

1.29 ROPAX Jetty Project, Odisha
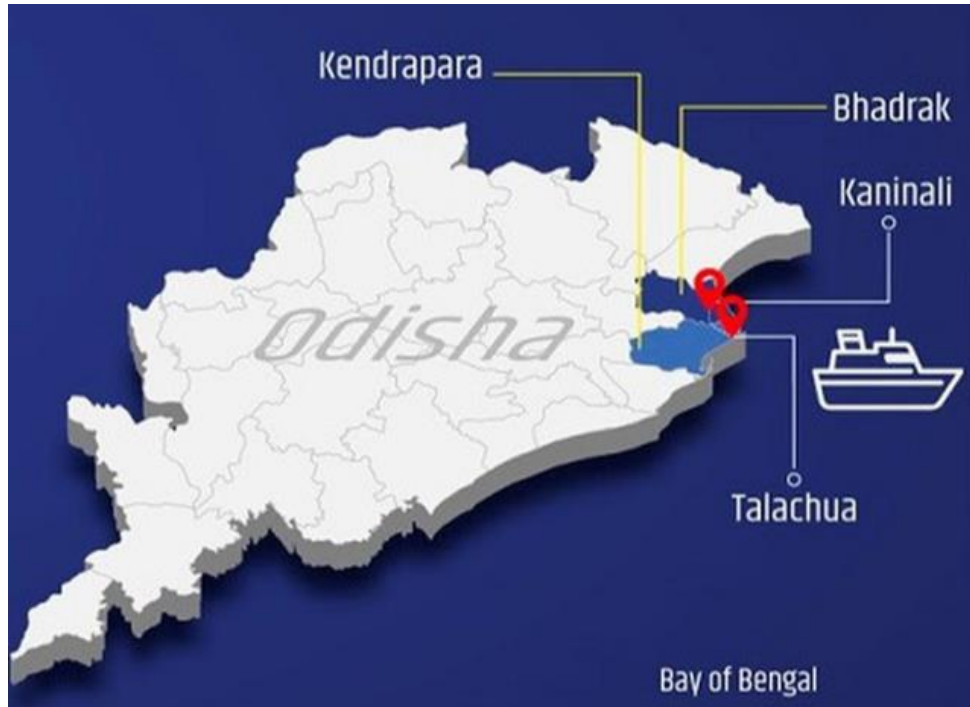
- Rs. 110 crore ROPAX Jetty Project shall be constructed on river Dhamra in Odisha.
- Ministry of Ports, Shipping & Waterways (MoPSW) has accorded administrative approval for developing all-weather ROPAX (Roll-on/Roll-off Passenger) Jetty and allied Infrastructure.

- It shall connect Kaninali in Bhadrak district &Talachua in Kendrapara district, Odisha under the Sagarmala initiative.
- This project will reduce travel time for passengers from 6 hours by road to 1 hour by waterway.
- Kaninali in Bhadrak district and Talachua in Kendrapada district, are located on the northern and southern banks of River Dhamra respectively.

1.30 JallianwalaBagh massacre

- On April 13, 1919, British forces opened fire on unarmed Indians at JallianwalaBagh killing hundreds of people.
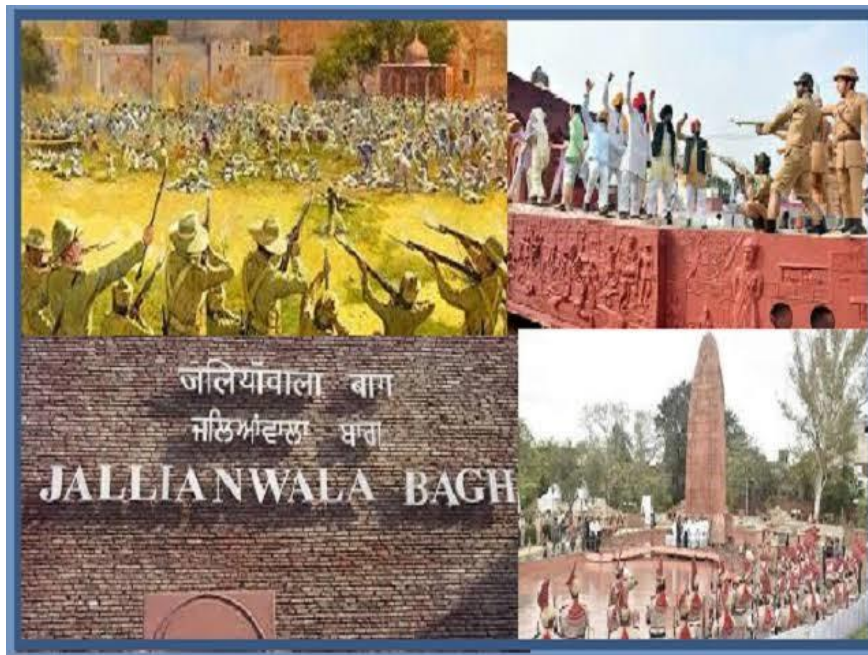
About the incident:

- It was Baisakhi that day, local residents in Amritsar decided to hold a meeting that day to discuss and protest against the confinement of Satya Pal and SaifuddinKitchlew, two leaders fighting for Independence, and implementation of the Rowlatt Act, which armed the British government with powers to detain any person without trial.
- The crowd had a mix of men, women and children. They all gathered in a park called the JallianwalaBagh, walled on all sides but for a few small gates, against the orders of the British. While the meeting was on, Brigadier-General Reginald Edward Harry Dyer, who had crept up to the scene wanting to teach the public assembled a lesson, ordered 90 soldiers he had brought with him to the venue to open fire on the crowd. Many tried in vain to scale the walls to escape. Many jumped into the well located inside the park.

Outcomes:

- Considered 'The Butcher of Amritsar' in the aftermath of the massacre, General Dyer was removed from command and exiled to Britain.

- Rabindranath Tagore and Mahatma Gandhi, as a sign of condemnation, renounced their British Knighthood and Kaiser-i-Hind medal respectively.
- In 1922, the infamous Rowlatt Act was repealed by the British.

1.31 MANAS

- The Principal Scientific Adviser to the Government of India launched the "MANAS" App to promote wellbeing across age groups.

Key takeaways

- It was jointly executed by NIMHANS Bengaluru, AFMC Pune and C-DAC Bengaluru.
- MANAS which stands for Mental Health and Normalcy Augmentation System was endorsed as a national program by the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC).
- It is a comprehensive, scalable, and national digital wellbeing platform.
- It is an app developed to augment mental well-being of Indian citizens.
- It integrates the health and wellness efforts of various government ministries, scientifically validated indigenous tools with gamified interfaces developed/researched by various national bodies and research institutions.

1.32 Overseas Citizens of India (OCI)

- Union Home Ministry has clarified that the Overseas Citizens of India (OCI) will not be required to register for a fresh OCI card every time a new passport is issued in their name.

Background:

- At present, the OCI card is required to be reissued each time a new passport is issued up to 20 years of age and once after completing 50 "in view of biological changes in the face of the applicant".

As per the latest changes:

- A person who has got registration as OCI cardholder prior to attaining the age of 20 years will have to get the OCI card reissued only once when a new passport is issued after his/her completing 20 years of age, so as to capture his/her facial features on attaining adulthood.
- If a person has obtained registration as OCI cardholder after attaining the age of 20 years, there will be no requirement of reissue of the OCI card.

Who are OCI cardholders?

- Government of India launched the 'Overseas Citizenship of India (OCI) Scheme' by making amendments to Citizenship Act, 1955 in 2005.
- On 09 January 2015, the Government of India discontinued the PIO card and merged it with OCI card.

Eligibility:

- Government of India allows the following categories of foreign nationals to apply for OCI Card.

Eligible categories to apply for OCI Card	Is a Citizen of India at time of or after the Constitution came into effect i.e. 26 January 1950.
	Eligible to become citizin of India on 26 January 1950
	Belonged to a territory that became part of India after 15 August 1947
	Child or descendent of a person from any of the above mentioned categories
	A minor child of the persons belonging to any of the above.
	A minor child of whom either or both the parents are citizens of India.
	Foreign origin spouse of Citizen of India or of a person holding OCI status . - Marriage needs to be registered. - They are married for more than two years continuously beore the date of application.

Exceptions:

- Anyone who is applying for OCI card should hold a valid Passport of another country.
- Individuals who do not have citizenship of any other country are not eligible to gain an OCI status.
- Individuals whose parents or grandparents hold citizenship of Pakistan and Bangladesh are not eligible to apply.

Benefits for OCI cardholders:

- Lifelong Visa to visit India multiple times. (special permission needed for research work in India).
- No need to register with Foreigners Regional Registration Officer (FRRO) or Foreigners Registration Officer (FRO) for any length of stay.
- Except for acquisition of agricultural and plantation properties, OCI card holders have similar facilities that are extended to NRIs in economic, financial and educational fields.
- Same treatment as of NRIs in respect to Inter-country adoption of Indian children.
- Also treated at par with NRIs regarding – entry fees for national monuments, practice of professions like doctors, dentists, nurses, advocates, architects, Chartered Accountants & Pharmacists.
- At par with NRIs to participate in All India Pre-medical tests and such.
- Treated at par with Indian citizens in matters of traffic in airfares in Indian domestic sectors.
- Same entry fee as for Indians for entry into India's national parks and wildlife sanctuaries.

● OCI booklet can be used as identification to avail services. An affidavit can be attached with local address as residential proof.

There are certain restrictions placed on OCI card holders:

1. Do not have right to vote.

2. Do not have right to any public service/government jobs

3. Cannot hold offices of – Prime Minister, President, Vice -President, Judge of Supreme Court and High Court, member of Parliament or Member of state legislative assembly or council.

4. Cannot own agricultural property.

1.33 National Startup Advisory Council (NSAC)

● Minister of Commerce & Industry chaired the first meeting of National Startup Advisory Council (NSAC).

Important value additions

● Constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)

● Objective: To advise the Government on measures needed to build a strong ecosystem for nurturing innovation and startups in the country to drive sustainable economic growth and generate large scale employment opportunities.

● The council has representations from various stakeholders such as founders of successful startups, veterans who have grown and scaled companies in India, persons capable of representing interest of investors into startups, and representatives from industry associations.

1.34 National Internet Exchange of India (NIXI)

● NIXI has announced to play a supporting role for the IPv6 awareness and adoption in the country along with the Ministry of Electronics & Information Technology (MeitY).

About NIXI:

● National Internet Exchange of India (NIXI) is a not-for-profit organization.

● It has been working since 2003 for spreading the internet infrastructure to the citizens of India through the following activities:

● Internet Exchanges through which the internet data is exchanged amongst ISP's, Data Centers.

● .IN Registry, managing and operation of .IN country code domain and . IDN domain for India.

● IRINN, managing and operating Internet protocol (IPv4/IPv6).

1.35 Gender Samvaad

● Gender Samvaad was a joint attempt between DAY-NRLM and the Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE) to create a common platform to share experiences emerging from this effort.

● The event was organised today by the Ministry of Rural Development, Govt. of India.

- The attempt is to generate greater awareness on gender related interventions under DAY-NRLM across the country and best practices, with a focus on hearing voices from the states and the field.
- Gender Samvaad provides states with opportunities to:
- Understand best practices/initiatives that other states have been undertaking to improve women's agency, in establishing strong institutions for public service delivery, and in protecting and providing redress to vulnerable groups within women.
- Understand gender interventions globally.
- Engage with experts and other colleagues on suggestions regarding how to handle issues/implementation barriers.
- Contribute to the creation of a 'gender repository' with resource materials on best practices for gender interventions across the country/other countries.
- Build advocacy around the need to focus on gender issues across SRLMs and the NRLM.

Background:

- With over 60 million women mobilised to be part of one of India's largest livelihoods programme, the DeendayalAntyodayaYojana-National Rural Livelihoods Mission (DAY-NRLM) holds great promise for advancing women's socio-economic empowerment by organising them into self-help groups (SHGs) and federations of the rural poor.
- Not only are these platforms facilitating financial opportunities and livelihood support services for women, but they have also become an extended arm of governance to demand accountability from and build linkages with mainstream institutions.

1.36EatSmart Cities Challenge

- The Ministry of Housing and Urban Affairs launched the EatSmart Cities Challenge and Transport 4 All Challenge.
- The challenges aim at creating an environment of right food practices and habits and to make public transport safe, affordable, comfortable, and reliable.

EatSmart Cities Challenge:

- The EatSmart Cities Challenge is envisioned as a competition among cities to recognize their efforts in adopting and scaling up various initiatives under Eat Right India.
- The challenge is open to all Smart Cities, capital cities of States /UTs, and cities with a population of more than 5 lakh.

Objective:

- It aims to motivate Smart Cities to develop a plan that supports a healthy, safe and sustainable food environment supported by institutional, physical, social, and economic infrastructure along with the application of 'smart' solutions to combat food-related issues.

● Significance: The challenge has the potential to create social and behavioural change towards food safety, hygiene and nutrition.

Transport 4 All Challenge:

● The initiative has been launched in collaboration with The Institute for Transportation and Development Policy (ITDP) and aims to bring together cities, citizen groups, and start-ups to develop solutions that improve public transport.

● ITDP is a non-governmental non-profit organization that focuses on developing bus rapid transit systems, promoting biking, walking, and non-motorized transport, and improving private bus operator's margins.

● Objective: The Transport 4 All Digital Innovation Challenge Aims to develop digital solutions that will make public transport safe, affordable, comfortable, and reliable for all.

1.37 UN Food Systems Summit 2021:

● India Holds National Dialogue on UN Food Systems Summit 2021.

● The United Nations Secretary-General has called for the first-ever UN Food Systems Summit to be held in September 2021.

● It seeks to strategize the actions for positive change in Agri-food systems in the World to realize the vision of the 2030 Agenda for Sustainable Development.

● The Summit will focus on levers and pathways to shape food systems nationally and globally to accelerate progress in the SDGs.

● The term "food system" refers to the constellation of activities involved in producing, processing, transporting and consuming food.

● Food systems touch every aspect of human existence.

● The health of our food systems profoundly affects the health of our bodies, as well as the health of our environment, our economies, and our cultures.

1.38 Sri Ramanujacharya

● Born in 1017 CE in Tamil Nadu.

● He is the most respected Acharya in the philosophy of Sri Vaishnavism.

● He was also referred to as IlayaPerumal which means the radiant one.

- His philosophical foundations for devotionalism were influential to the Bhakti movement.

- He is famous as the chief proponent of Vishishtadvaita ,subschool of Vedānta.

- He wrote influential texts, such as bhāsya on the Brahma Sutras and the Bhagavad Gita, all in Sanskrit.

What is Vishishtadvaita?

- It is a non-dualistic school of Vedanta philosophy. It is non-dualism of the qualified whole, in which Brahman alone exists, but is characterized by multiplicity.

- It can be described as qualified monism or qualified non-dualism or attributive monism.

- It is a school of Vedanta philosophy which believes in all diversity subsuming to an underlying unity.

1.39 National climate vulnerability assessment

- National climate vulnerability assessment released. The report is titled 'Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework'.

- It identifies the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.

Key findings of the report:

- It has identified Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh, and West Bengal as states highly vulnerable to climate change.

- These states, mostly in the eastern part of the country, require prioritization of adaptation interventions.

Need for vulnerability assessment:

- Mapping the parts of India that are vulnerable to extreme changes will help initiating climate actions at the ground level.

- The assessment will help policymakers in initiating appropriate climate actions. It will also benefit climate-vulnerable communities across India through development of better-designed climate change adaptation projects.
- The assessments can further be used for India's reporting on the Nationally Determined Contributions under the Paris Agreement. And finally, these assessments will support India's National Action Plan on Climate Change.

1.40 Tiki Formation in Madhya Pradesh

- The Tiki Formation in Madhya Pradesh, a treasure trove of vertebrate fossils, has now yielded a new species and two genera of cynodonts, small rat-like animals that lived about 220 million years ago.

Tiki Formation

- The Tiki Formation is a Late Triassic geologic formation in Madhya Pradesh.
- Dinosaur remains are among the fossils that have been recovered from the formation, although none have yet been referred to a specific genus.
- Phytosaur remains attributable to the genus Volcanosuchus have also been found in the Tiki Formation.
- The genera Tikiodon, Tikitherium and Tikisuchus and species Rewaconodontikiensis, Hyperodapedontikiensis and Parvodustikiensis have been named after the Tiki Formation.

Findings:

- The fossil teeth were studied for size, crown shape, structure of the cusps and compared with previously reported cynodonts.
- Cynodonts are important in evolutionary studies as this group ultimately gave rise to the present-day mammals.
- By studying their molar and premolar teeth, we see how they slowly evolved and modified.

- Their crown shape shows that these animals are actually intermediate forms that are very near to the mammalian line of evolution.

- Cynodonts and living mammals both belong to a group of egg-laying vertebrates (amniotes) called synapsids.

- The close relationship of cynodonts with living mammals is seen in their bones.

1.41 Vande Bharat Mission

- The Vande Bharat Mission (VBM), which started repatriating Indians stranded abroad due to COVID-19 and the resultant lockdowns since May 7, 2020, has turned out to be one of the largest evacuations of civilians by a country.

- Into the middle of Phase 10, the VBM has surpassed the large-scale airlift of 1,10,000 people in 1990 at the onset of the Gulf War.

- Till now, the Air India (AI) Group has operated 11,523 inbound flights to carry 18,19,734 passengers and 11,528 outbound flights with 13,68,457 passengers.

- The national carrier, which carried out the bulk of air transfers under the mission, was supported by its budget carrier Air India Express.

- The current VBM Phase 10 has international and domestic schedules operating till October 31.

- Air India Express (AIE) used its B-737-800 fleet to lift agricultural produce, mainly fruits, and vegetables, to West Asian countries, Singapore and Kuala Lumpur.

- "Transport bubbles" or "air travel arrangements", temporary arrangements between two countries aimed at restarting commercial passenger services when regular international flights are suspended as a result of the pandemic, are in place.

1.42 My NEP 2020 Web Portal

- Union Education Minister launched the "MyNEP2020" Platform of NCTE Web Portal.

- The platform seeks to invite suggestions from the stakeholders for preparing a draft for the development of National Professional Standards for Teachers (NPST) and National Mission for Mentoring Program membership (NMM).

- The "MyNEP2020" platform will be operational from 1st April 2021 to 15th May 2021.

- For preparing the documents on the above two major recommendations of NEP 2020, NCTE will work in close consultation with individuals/organizations.

- An expert committee will extensively review the inputs collected during the consultation period and will finally formulate the Drafts for public review. Comments by the reviewers from the stakeholders will then be used to prepare a final Draft for notification.

- National Council for Teacher Education (NCTE) is a statutory body of the Indian government set up under the National Council for Teacher Education Act, 1993 in 1995 to formally oversee standards, procedures, and processes in the Indian education system.

1.43 Electoral Bonds Scheme

- In the wake of the upcoming State elections, the Association of Democratic Reforms (ADR) has filed a petition in the Supreme Court, seeking a stay in the electoral bond.
- The Supreme Court recently flagged its concern that political parties could misuse crores of rupees received as donations through electoral bonds to bankroll violent protests or even terror.

About Electoral Bonds Scheme

- Electoral Bond is a financial instrument for making donations to political parties.
- The bonds are issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore without any maximum limit.
- State Bank of India is authorised to issue and encash these bonds, which are valid for fifteen days from the date of issuance.
- These bonds are redeemable in the designated account of a registered political party.
- The bonds are available for purchase by any person (who is a citizen of India or incorporated or established in India) for a period of ten days each in the months of January, April, July and October as may be specified by the Central Government.
- A person being an individual can buy bonds, either singly or jointly with other individuals. Donor's name is not mentioned on the bond.

Misuse of Electoral Bonds as Pointed Out during SC case:

- Anonymity: Neither the donor (who could be an individual or a corporate) nor the political party is obligated to reveal whom the donation comes from.
- Asymmetry of information: Because the bonds are purchased through the SBI (Central PSU), the government is always in a position to know who the donor is. This asymmetry of information threatens to favour the scheme towards the political party that is ruling at the time.
- Control Over usage: The court asked the government whether there is any "control" over how these donations were used by political parties.
- Scheme facilitates kickbacks: Though the original purchase of bonds could be done using white money, somebody could anonymously re-purchase the bonds from the original buyer and drop it at a political party office. Nobody will know who purchased the bonds from the original buyer. The scheme facilitates kickbacks

- Possibility of Money Laundering: With doing away with all the safeguard that were present in Corporate donations to Political parties (through Companies Act), Indian, foreign and even shell companies can now donate to political parties without having to inform anyone of the contribution.

- Question on procedure followed: The scheme was brought in through amendments to finance bill as the government of the day did not have majority in the RajyaSabha (that has less powers w.r.t finance bill)

Government's Defence:

- Conditions for electoral bonds: Only parties registered under the Representation of the People Act could receive donations through electoral bonds, and that they should not have secured less than 1% of the votes polled in the previous elections.

- Tackles Menace of Black Money in Politics: The Electoral Bond Scheme promotes white money into political funding (thus disincentivising black money) as it insists on cheque and digital paper trails of transactions

- Election Commission of India's Support: ECI was not opposed to the bonds but was only concerned about the aspect of anonymity. It also urged the court not to stay the bonds and said the scheme is one step forward compared to the old system of cash funding, which was unaccountable.

Way Forward

- Voters can also help bring in substantial changes by demanding awareness campaigns. If voters reject candidates and parties that overspend or bribe them, democracy would move a step higher.

- Electoral bonds have raised questions on the electoral legitimacy of the government and thus the whole electoral process has become questionable. In this context, the courts should act as an umpire and enforce the ground rules of democracy.

- It is essential that if democracy is to thrive, the role of money in influencing politics ought to be limited. Thus, it is imperative that the scheme of the electoral bonds should be revised.

1.44 HSN Code

- The ministry of finance has announced that businesses with turnover of Rs 5 crore and above will have to furnish six-digit HSN or tariff code on the invoices issued for supplies of taxable goods and services

About

- HSN stands for Harmonised System of Nomenclature code. It is mandatory for both B2B and B2C tax invoices on the supplies of Goods and Services.

- This was introduced in 1988 by the World Customs Organization (WCO).

- This was introduced for a systematic classification of goods both national and international.

- This is a 6-digit code that classifies various products.

- India has been using HSN codes since 1986 to classify commodities for Customs and Central Excise. HSN codes apply to Customs and GST.

- The codes prescribed in the Customs tariff are used for the GST purposes too. HSN is used all over the world.

- There are different HSN codes for various commodities. HSN codes remove the need to upload details about the goods which makes filing of GST returns easier.

- The HSN code contains 21 sections. These are divided into 99 chapters which are divided into 1244 sections. This system helps in making GST simpler and globally accepted. HSN codes for goods at 6 digits are universally common. Common HSN codes apply to Customs and GST. Codes prescribed in the Customs tariff are used for the GST purposes. In Customs Tariff, HS code is prescribed as heading (4 digits HS), sub-heading (6 digits HS) and tariff items (8 digits).

SAC HSN code

- SAC code stands for Services Accounting.

- This is issued by Central Board of Indirect Taxes and Customs (CBIC) to classify each service under GST.

- Each service has a unique SAC.

- These SAC codes can be used in invoices created by you for the services you delivered. HSN and SAC codes are used to classify goods and services under GST regime.

1.45 Appointment of adhoc judges

- The Supreme Court has agreed that a plan to appoint retired judges on an ad hoc basis to reduce pendency in the High Courts should not become an excuse to stop or further delay the appointment process of regular judges.

Need for:

- As on April 1, the High Courts have a total vacancy of 411 regular judges against the sanctioned judicial strength of 1,080. The working strength in the High Courts is 669.

Observations made by the Court:

- The Chief Justices of the High Courts should opt for ad hoc judges only if their efforts to fill the judicial vacancies in their respective High Courts have hit a wall, even as pendency has reached the red zone. Ad hoc judges should not be appointed in lieu of regular recommendations.

Need of the hour:

- A procedure should be adopted explaining when a Chief Justice can initiate the appointment of an ad hoc judge; what should be the threshold of pendency for such appointments; for how long should such ad hoc judges continue; what should be their allowances, etc.

Constitutional Provisions in this regard:

● The appointment of ad-hoc judges was provided for in the Constitution under Article 224A.

Procedure to be followed:

● Under the Article, the Chief Justice of a High Court for any State may at any time, with the previous consent of the President, request any person who has held the office of judge of that court or of any other High Court to sit and act as a judge of the High Court for that State.

● Such a judge is entitled to such allowances as the president may determine. He will also enjoy all the jurisdiction, powers and privileges of a judge of the Supreme Court. But, he will not otherwise be deemed to be a judge of the Supreme Court.

1.46 Civil Services Day

● Every year, 21st April is celebrated as Civil Services Day by the Government of India.

● It is celebrated as an occasion for the civil servants to rededicate themselves to the causes of citizens and renew their commitments to public service and excellence in work.

● The date is chosen to commemorate the day when the first Home Minister of Independent India, SardarVallabhbhai Patel addressed the probationers of Administrative Services Officers in 1947 at Metcalf House, Delhi.

● He referred to civil servants as the 'Steel Frame of India'.

● The first function on civil services day was held in VigyanBhawan, New Delhi in 2006.

● On this day, the Prime Minister's Awards for Excellence in Public Administration are presented to Districts/Implementing Units for implementation of Priority program and innovation categories.

1.47 National Panchayati Raj Day

● 24th April 1993 marks a defining moment in the history of decentralization of power to the grassroots, with the institutionalization of Panchayati Raj, through the Constitution (73rd Amendment) Act, 1992 which came into force with effect from that day.

● Ministry of Panchayati Raj commemorates 24th April of every year as the National Panchayati Raj Day (NPRD), as the 73rd Constitutional Amendment came into force on this date.

● This occasion provides an opportunity for direct dialogue with Panchayat representatives from all over the country as well as recognizing their achievements to empower and motivate them further.

● Prime Minister Modi will confer the National Panchayat Awards 2021 on the occasion of National Panchayati Raj day (24th April 2021).

● The National Panchayat Awards 2021 are being conferred under the following categories:

● DeenDayalUpadhyayPanchayatSashaktikaranPuraskar (to 224 Panchayats),

● NanajiDeshmukhRashtriyaGaurav Gram SabhaPuraskar (to 30 Gram Panchayats),

● Gram Panchayat Development Plan Award (to 29 Gram Panchayats),

● Child-friendly Gram Panchayat Award (to 30 Gram Panchayats) and

- e-PanchayatPuraskar (given to States/UTs only) (to 12 States).
- Prime Minister will transfer the award money (as Grants-in-Aid) through the click of a button, ranging from Rs.5 lakh to Rs.50 lakh.
- The amount will be directly transferred to the bank account of the Panchayats concerned in real-time.
- This is being done for the first time.

1.48 PM CARES

- The PM CARES Fund has approved allocation of funds for setting up 551 Pressure Swing Adsorption medical oxygen generation plants at public health facilities across the country.
- The Fund had earlier this year allocated ₹201.58 crores for the installation of 162 such plants.

What is Pressure swing adsorption (PSA)?

- It is a technology used to separate some gas species from a mixture of gases under pressure according to the species' molecular characteristics and affinity for an adsorbent material.
- It operates at near-ambient temperatures and differs significantly from cryogenic distillation techniques of gas separation.
- Specific adsorbent materials (e.g., zeolites, activated carbon, molecular sieves, etc.) are used as a trap, preferentially adsorbing the target gas species at high pressure.
- The process then swings to low pressure to desorb the adsorbed material.

About PM-CARES:

- The Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM-CARES) Fund was set up to accept donations and provide relief during the Covid-19 pandemic, and other similar emergencies.

PM-CARES Fund:

- PM-CARES was set up as a public charitable trust with the trust deed registered on March 27, 2020.
- It can avail donations from the foreign contribution and donations to fund can also avail 100% tax exemption.
- PM-CARES is different from the Prime Minister's National Relief Fund (PMNRF).

Who administers the fund?

- Prime Minister is the ex-officio Chairman of the PM CARES Fund and Minister of Defence, Minister of Home Affairs and Minister of Finance, Government of India are ex-officio Trustees of the Fund.

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2. INTERNATIONAL RELATIONS

2.1 World Immunisation and Logistics Summit

- Recently, Union Minister for Health and Family Welfare digitally participated in a panel discussion on vaccine production and distribution across Asia at the "World Immunisation and Logistics Summit".

Key takeaways

- Initiative by: HOPE Consortium
- Objective: To enhance collaboration in the world's approach to tackle COVID-19 and ensure a healthier future for all.
- Hosted by: Abu Dhabi
- Acclaimed global healthcare and philanthropic leaders, decision-makers, experts and senior government officials participated to explore a unified global approach to fighting the COVID-19 pandemic.

HOPE Consortium

- Spearheaded by: Department of Health – Abu Dhabi
- It brings together leading brands to deliver an end-to-end solution to distribute COVID-19 vaccines globally.

2.2 Joint Comprehensive Plan of Action (JCPOA)

- USA and Iran would begin negotiations through intermediaries to try to get back into an accord limiting Iran's nuclear programme.

Key takeaways

- The announcement marked the first major progress in efforts to return both countries to the 2015 accord, which bound Iran to restrictions on its nuclear programmes in return for relief from U.S. and international sanctions.
- USA's previous President Donald Trump had pulled the USA out of the accord in 2018 and imposed tougher sanctions on Iran.
- Iran responded by intensifying its enrichment of uranium and building of centrifuges, while maintaining its insistence that its nuclear development was for civilian and not military purposes.
- Iran's moves increased pressure on major world powers and raised tensions among U.S. allies and strategic partners in West Asia.
- Agreement on the start of indirect talks came after the EU helped broker a virtual meeting of officials from Britain, China, France, Germany, Russia and Iran, which have remained in the Joint Comprehensive Plan of Action (JCPOA) accord.

2.3 BIMSTEC

- 17th BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) Ministerial meet, chaired by Sri Lanka, was held recently.
- The meeting drew participation from all the seven-member States, including Myanmar which is witnessing a large-scale crackdown against anti-military protesters.
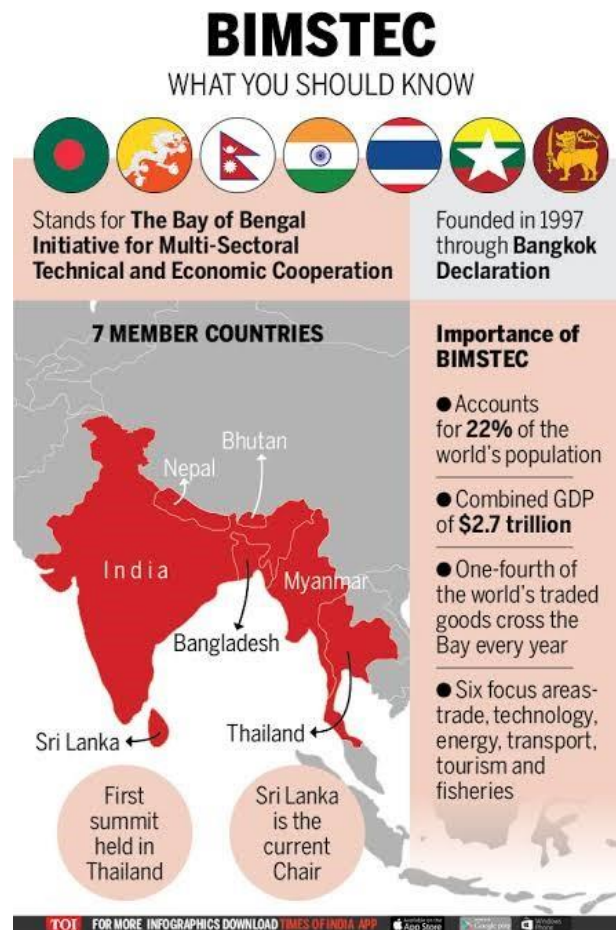
What is BIMSTEC?

- In an effort to integrate the region, the grouping was formed in 1997, originally with Bangladesh, India, Sri Lanka and Thailand, and later included Myanmar, Nepal and Bhutan. BIMSTEC, which now includes five countries from South Asia and two from ASEAN, is a bridge between South Asia and Southeast Asia. It includes all the major countries of South Asia, except Maldives, Afghanistan and Pakistan.

Why the region matters?

- Over one-fifth (22%) of the world's population live in the seven countries around it, and they have a combined GDP close to $2.7 trillion.
- The Bay also has vast untapped natural resources. One-fourth of the world's traded goods cross the Bay every year.
- Why is BIMSTEC important for India?

- As the region's largest economy, India has a lot at stake.
- BIMSTEC connects not only South and Southeast Asia, but also the ecologies of the Great Himalayas and the Bay of Bengal.
- For India, it is a natural platform to fulfil our key foreign policy priorities of 'Neighborhood First' and 'Act East'.
- For New Delhi, one key reason for engagement is in the vast potential that is unlocked with stronger connectivity. Almost 300 million people, or roughly one-quarter of India's population, live in the four coastal states adjacent to the Bay of Bengal (Andhra Pradesh, Orissa, Tamil Nadu, and West Bengal).
- From the strategic perspective, the Bay of Bengal, a funnel to the Malacca straits, has emerged a key theatre for an increasingly assertive China in maintaining its access route to the Indian Ocean.
- As China mounts assertive activities in the Bay of Bengal region, with increased submarine movement and ship visits in the Indian Ocean, it is in India's interest to consolidate its internal engagement among the BIMSTEC countries.

2.4 World Cities Culture Forum (WCCF)

- WCCF was established in London in 2012 with eight cities.
- It has 43 participating member cities.
- Participating member cities include London, Hong Kong, Amsterdam, Edinburgh, Lisbon, San Francisco, Shanghai, etc.
- Delhi is invited this year but it is not a part of member cities.
- It enables the policymakers of member cities to share research and intelligence and explores the vital role of culture in their future prosperity.
- The activities of the World Cities Culture Forum are organized and delivered by BOP Consulting, a specialist consulting firm, on behalf of the Greater London Authority, London's Municipal Government.
- BOP conducts comparative research to measure the impact and importance of culture and creativity and shares it with the Forum so members can make evidence-based policy decisions.
- World Cities Culture Summit: Forum members collaborate via a program of events including themed symposia, regional summits, and workshops.
- These events feed into the annual World Cities Culture Summit.
- Hosted on a rotating basis by member cities, this unique gathering allows city leaders to share ideas and knowledge about the role of culture as an organizing principle for the sustainable city of the future.
- It is attended by Deputy Mayors for Culture and Heads of Culture from the member cities.

● 2021 Theme: The Future of Culture.

2.5 H-1B Visa Rule to expire

● USA President Joe Biden has allowed the H-1B visa rule to expire.

Key takeaways

● In June 2020, former USA President Donald Trump halted the issuance of non-immigrant work visas of several types, including the skilled worker visa, or H-1B.

● It was valid until March 31, 2021.

● Its expiry order shall bring relief to a large number of Indian nationals, especially IT workers.

● Until now, the U.S. issued 85,000 H-1B visas annually, of which 20,000 went to graduate students and 65,000 to private sector applicants, and Indian nationals would garner approximately 70% of these.

2.6 MoU on "Blockchain-based Traceability Interface" for Indian Spices

● Spices Board India and UNDPs India's Accelerator Lab signed a Memorandum of Understanding(MoU). The MoU aims to build a blockchain-based traceability interface for Indian spices. It will enhance transparency in the supply chain and trade.

About blockchain-based traceability interface:

● Blockchain-based traceability interface will be integrated with the e-Spice Bazaar portal. The portal was developed by Spices Board India for connecting spices farmers with markets.

Significance:

● It will bring ease and transparency in data management across a complex network. This network includes farmers, distributors, processors, retailers, regulators, and consumers thus simplifying the supply chain.

● It will also allow farmers and other stakeholders to access the information. This makes the entire supply chain more efficient and equitable.

What is Blockchain Technology?

● A blockchain is a distributed ledger of information. It replicates across various nodes on a "peer-to-peer" network (P2P Network).

● The data exists on multiple computers at the same time. It constantly grows as new sets of recordings or blocks add to it in a decentralization manner.

● All transactions on a standard Blockchain are verified and signed with cryptography. It is to ensure security and anonymity.

● Cryptography: It is the process of converting ordinary plain text into unintelligible text and vice-versa.

● The intended person can encrypt the coded message and use them.

● The ledger can record many transactions such as monetary transactions, property transfer, and even ballot storage.

About Spices Board India:

● Spices Board is one of the five Commodity Boards functioning under the Ministry of Commerce & Industry.

● Purpose: It is an autonomous body responsible for the export promotion of the 52 scheduled spices and development of Cardamom (Small & Large).

Functions:

1.Research, Development, and Regulation of domestic marketing of Small & Large Cardamom;

2.Post-harvest improvement of all spices;

3.Export promotion of all spices. Further, it will assist the exporters in technology up-gradation, quality management, brand promotion, research & product development;

4.Development of spices in the North East;

5.Regulation of quality of spices for exports through its quality evaluation services; etc.

2.7 Global Gender Gap Report 2021

● The World Economic Forum (WEF) has released the Global Gender Gap Report 2021. India has ranked 140 among 156 countries in Global Gender Gap Index 2021, which is 28 spots lower than its 2020 ranking. Iceland has topped the rankings.

● The report states that due to the COVID-19 pandemic, the gender gaps which were already closed have been partially re-opened. Globally, the economic gender gap may be between 1% and 4% wider than reported.

● Gender Equality is one of the prime goals of Sustainable Development Goals (SDGs). Hence, the key highlights of the Global Gender Gap Report 2021 tend to reflect on the performance of the world towards the achievement of the Goal 5 of the SDGs among other goals.

● Global Gender Gap Index

● There are four dimensions based on which the Global Gender Index evaluates the performance of the countries:

1.Economic Participation & Opportunity

2.Education Attainment

3.Health and Survival

4.Political Empowerment

● Key Highlights of the Global Gender Gap Report 2021

● It will take 135.6 years to close the gender gap worldwide

● To attain Gender Gap Parity, the average distance completed is 68 percent.

- Large countries' performance has deteriorated.

- It will take 145.5 years to attain gender parity in politics

- The largest gender gap is present in the political empowerment dimension.

- Only 22 percent of the gender gap in political empowerment has been closed so far.

- Important Facts – Concerns:

- Out of 35500 parliament seats across the world, women represent only 26.1 percent of the seats (9265 approximately)

- Out of 3400 ministers worldwide, women ministers are 22.6 percent of those. (768 approximately)

- As of 15th January 2021, none of 81 countries out of 156 countries (Considered in Global Gender Index 2021) had a woman as the head of the state.

- Togo and Belgium are two countries to elect their first women prime ministers:

- Togo elected VictoireTomegahDogbé in 2020

- Belgium elected Sophie Wilmès in 2019.

- It will take 267.6 years to complete the gender gap in economic participation and opportunity.

- After politics, economic participation and opportunity remain the largest gender gap dimension.

- 58% of the gender cap in this dimension has been closed so far.

- Two opposing trends witnessed:

- Trend 1 – There is an increase in the proportion of women among skilled professionals and also in wage equality

- Trend 2 – Income disparities are still an issue as they are still only part-way towards being bridged. Also, the number of women in leadership positions remains low. (Only 27 percent of total people in managerial positions are women.)

- In selected countries, the impact of pandemic on women participation in the labour force led to the widening of the gender gap.

- It will take another 14.2 years to close the gender gap in the dimension of education attainment. While the time to close the gap in health and survival is still unfixed.

- The Gender Gap in Education Attainment and Health and Survival has been nearly closed.

- 95 percent of the gender gap in education attainment has been closed; while 96 percent of that has been closed in health and survival gender gap.

- 37 countries are at parity in terms of education attainment.

2.8 India – Seychelles Relations

- India handed over a Fast Patrol Vessel to Seychelles and inaugurated a solar power plant with a capacity of one MW. Along with this, The Prime Minister of India and President of Seychelles inaugurated 10 high impact community development projects (HICDP).

- The Ship's name is PS Zoroaster. It is the fourth such ship given to Seychelles with the last one being given in 2005. The purpose of the ship is to strengthen maritime security through aircraft and patrol ships.

History of the India-Seychelles Relations

- Diplomatic relations between Indian and Seychelles since the independence of the latter in 1976. Relations between the two have been cordial with regular high level visits and exchanges taking place from time to time.

- From India, Prime Minister Indira Gandhi and Presidents R Venkataraman and PratibhaPatil have visited the Seychelles,while Presidents France Albert Rene, James Alix Michel and Danny Faure of Seychelles have paid state visits to India.

- India and Seychelles have broad based relations that cover a host of sectors including defence, culture, trade and technical cooperation.

Defence Cooperation between India and Seychelles

- India and Seychelles have a close relationship when it comes to defence ties. Seychelles is of strategic importance to India due to its position in the Indian Ocean. In June 1986, the Indian Navy deployed one of its ships, the INS Vidhyagiri, at the port of Victoria. This was in response to a coup attempt against President Rene by Defence Minister Berlois. The operation was called Operation Flowers are Blooming.

- India helped avert a further attempted coup by Berlouis in September 1986, when Indian Prime Minister Rajiv Gandhi lent President René his plane so that he could fly back from an international meeting in Harare to the Seychelles. President René reportedly took shelter in the residence of the Indian High Commissioner in Male.

- In 2009, India acted upon a request of the Seychelles and dispatched naval ships to patrol the exclusive economic zone of Seychelles and to guard it against piracy.

- Various Indian Navy ships have visited Seychelles as part of their anti-piracy deployment and protection of Seychelles EEZ, including INS Tarmugli in February 2005, INS Sukanya in March 2011, INSShardul from 4 to 6 June 2011 and from 17 to 19 June, 2011.

2.9 World Energy Transitions Outlook

- The International Renewable Energy Agency (IRENA) released the World Energy Transitions Outlook report.

Key highlights of the report:

- The report proposes energy transition solutions for the narrow pathway available to contain the rise of temperature to 1.5 degree Celsius.

● The COVID-19 crisis offers an unexpected opportunity for countries to decouple their economies from fossil fuels and accelerate the shift to renewable energy sources.

● It estimated that by 2050, 90% of total electricity needs would be supplied by renewables, followed by 6% from natural gas and the remaining from nuclear.

● The agency has identified 30 innovations for the integration of wind and solar PV in power systems.

The International Renewable Energy Agency (IRENA)

● It is an intergovernmental Organisation.

● Mandate: To facilitate cooperation and promote the adoption and sustainable use of renewable energy.

● It was founded in 2009 and its statute entered into force in 2010.

● Headquarters is in Masdar City, Abu Dhabi.

● IRENA is an official United Nations observer.

2.10 India-Netherland Virtual Summit

● It was the first high level Summit attended by PM Rutte after the general elections held in March 2021.

● Prime Minister Modi congratulated PM Rutte on his election victory and on becoming the Prime Minister of the Netherlands for the fourth consecutive term.

● During the Summit, the two leaders exchanged views on further expanding the relationship in trade and economy, water management, agriculture sector, smart cities, science & technology, healthcare and space.

● The two Prime Ministers also agreed on instituting a 'Strategic Partnership on Water' to further deepen the Indo-Dutch cooperation in the water related sector, and upgrading the Joint Working Group on water to Ministerial-level.

● Prime Minister Modi thanked the Netherlands for their support to International Solar Alliance (ISA) and Coalition for Disaster Resilient Infrastructure (CDRI). PM Modi also welcomed the Netherlands' Indo-Pacific Policy.

2.11 INS Sarvekshak

● Indian Navy Ship (INS) Sarvekshak visited Port Louis, Mauritius and commenced the hydrographic survey of 'Deep sea area off Port Louis'.

● It is a hydrographic survey ship, which is part of Research, Survey and Tracking vessels fleet of the Indian Navy (under the Southern Naval Command).

- It is fitted with state-of-the-art survey equipments like Deep Sea Multi-Beam Echo Sounder, Side Scan Sonars and a fully automated digital surveying and processing system. It carries an integral Chetak helicopter.
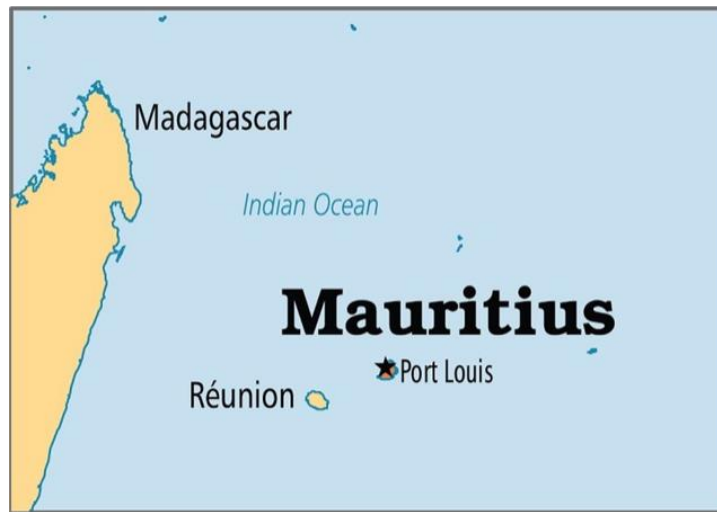
Other Research, Survey and Tracking Vessels

➢ Dhruv Class (Missile Range Instrumentation vessel) - INS Dhruv

➢ Sagardhwani Class (Research vessel) - INS Sagardhwani

➢ Sandhayak Class (Survey vessels) - INS Nirupak, INS Investigator, INS

➢ Jamuna, INS Sutlej, INS Sandhayak, INS Darshak, INS Sarvekshak, along with the INS Nirdeshak (Decommissioned)

➢ Makar Class (Survey vessel) - INS Maka

2.12 E9 initiative

- Consultation meeting of Education Ministers of E9 countries on E9 initiative to be held tomorrow.

- The consultation is the first of a three-phased process to co-create an initiative on digital learning and skills, targeting marginalised children and youth, especially girls.

What is E9 initiative?

- The initiative aims to accelerate recovery and advance the Sustainable Development Goal 4 agenda by driving rapid change in education systems in three of the 2020 Global Education Meeting priorities: (i) support to teachers; (ii) investment in skills; and (iii) narrowing of the digital divide.

Participants:

- Spearheaded by the UN, the E9 countries include Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan.

Benefits:

- Building on the established partnership of E9 countries allows these nine countries the opportunity to benefit from this global initiative and accelerate progress on digital learning and skills towards the achievement of Sustainable Development Goal 4 – Quality Education.

2.13 **Freedom of Navigation Operation (FONOP)**

● The US Navy has publicly declared it conducted "freedom of navigation operations" in India's Exclusive Economic Zone (EEZ) near Lakshadweep earlier this week, without deliberately seeking New Delhi's prior consent.

● However, India has protested this decision, rejecting the U.S.'s claim that its domestic maritime law was in violation of international law- (the United Nations Convention on the Law of the Sea (UNCLOS)).

Background:

● India's domestic laws hold any country carrying out military maneuvers in its EEZ must provide prior notification.

● While a country has full sovereignty over its territorial waters, which end at 12 nautical miles from the coast, it only has special rights in exploration and use of marine resources in its EEZ, which stretch to 200 nautical miles from the baseline.

What's the issue?

● The US said, India's requirement of prior consent is inconsistent with international laws and the "freedom of navigation operations (FONOPs)".

● The US — which has not ratified the UNCLOS unlike India, China and many other countries — does regularly conduct FONOPs in the contentious South China Sea to challenge China's aggressive territorial claims as well as in other areas including the Indian Ocean Region.

What's the concern now?

● The "tone and tenor of the aggressive public declaration" of FONOPs in India's EEZ, at a time when the US is seeking India's closer cooperation through the Quad and other mechanisms to foster "credible deterrence" against China in the Indo-Pacific, raised the hackles of the Indian security establishment.

What is FONOP?

● Freedom of Navigation Operations involves passages conducted by the US Navy through waters claimed by coastal nations as their exclusive territory.

● According to the US Department of Defense (DoD), the FON Program has existed for 40 years, and "continuously reaffirmed the United States' policy of exercising and asserting its navigation and overflight rights and freedoms around the world".

● These "assertions communicate that the United States does not acquiesce to the excessive maritime claims of other nations, and thus prevents those claims from becoming accepted in international law".

2.14 Iran nuclear Programme

- Iran has started up advanced uranium enrichment centrifuges in a breach of its undertakings under a troubled 2015 nuclear deal, days after the start of talks on rescuing the accord.

Key takeaways

- Iran's President Hassan Rouhani inaugurated the three cascades of 164 IR-6 centrifuges, 30 IR-5 and another 30 IR-6 devices at Iran's Natanz uranium enrichment plant.
- Iran's latest move to step up uranium enrichment follows an opening round of talks in Vienna with representatives of the remaining parties to the nuclear deal on bringing the U.S. back into it.

Vienna Talks

- The Vienna talks are focused on lifting crippling economic sanctions Trump reimposed on Iran.
- It also focuses on bringing Iran back into compliance after it responded by suspending several of its own commitments.
- Iran has demanded that the U.S. first lift all sanctions imposed by Trump, which include a sweeping unilateral ban on its oil exports, before it falls back in line with obligations it suspended.
- USA has demanded movement from Tehran in return.

2.15 State Of World Population Report 2021

- The United Nations Population Fund's (UNFPA) flagship 'State of World Population Report 2021' titled 'My Body is My Own' was launched.
- This is the first time a United Nations report has focused on bodily autonomy, defined as the power and agency to make choices about your body without the fear of violence or having someone else decide for you.
- Nearly half the women from 57 developing countries do not have the right to make decisions regarding their bodies, including using contraception, seeking healthcare, or even on their sexuality.
- In countries where data is available, only 55% of women are fully empowered to make choices over healthcare, contraception, and the ability to say yes or no to sex. It also highlights that only 75% of countries legally ensure full and equal access to contraception.
- Some examples of violation of bodily autonomy include child marriage, female genital mutilation, a lack of contraceptive choices leading to unplanned pregnancy, unwanted sex exchanged for a home and food, or when people with diverse sexual orientations and gender identities cannot walk down a street without fearing assault or humiliation.
- Under its ambit also fall people with disabilities stripped of their rights to self-determination, to be free from violence, and to enjoy a safe and satisfying sexual life.
- Women around the world are denied the fundamental right of bodily autonomy with the COVID-19 pandemic further exacerbating this situation.

2.16 US exit from Afghanistan

- The announcement by President Joe Biden that the US will withdraw all its troops from Afghanistan by September 11, 2021, the 20th anniversary of the 9/11 attacks, has sent tremors through the region's fault-lines.

What is the striking feature of Joe Biden's withdrawl plan?

- The Trump Administration made its troop withdrawal by May 1, 2021 conditional.
- On Taliban taking steps to prevent al-Qaeda or any other group from sheltering in Afghanistan, and Taliban agreeing to a dialogue on power sharing with the Afghan government.
- The Biden plan has no strings attached i.e. no conditions like above.
- There are about 2,500-3,500 US troops in Afghanistan at present, plus a NATO force of under 8,000. A co-ordinated withdrawal is expected to begin soon.

What will be the impact of this decision on various stakeholders?

- Afghanistan: Advantage Taliban & Instability
- Biden's announcement has removed all incentives for the Taliban to agree for a dialogue with the Afghan government
- Blinken Proposal dead: The proposal by US Secretary of State Anthony Blinken in March 2021 is now almost certainly dead in the water. It included:
- A 90-day ceasefireTalks under the auspices of the UN for a consensus plan for Afghanistan among the US, Russia, China, Pakistan, Iran and India
- A meeting in Turkey between the Taliban and Afghan government towards an "inclusive" interim government.An agreement on the foundational principles of the future political order and for a permanent ceasefire.
- The possibility of the Taliban being able to strike a peace deal with the Afghan government is low, as the Taliban believe that they can triumph militarily.
- IS and other terrorist groups have gained a foothold in Afghanistan. Therefore, the consequences of a hasty and irresponsible withdrawal from Afghanistan could be dangerous not only for Afghanistan but also for the region and the world
- There is deep apprehension of a return to the 1990s, although there is also a view that the Taliban too have changed over 25 years, and would not want to alienate the international community as they did when they ruled Afghanistan during 1996-01.
- By announcing an unconditional pullout, the US has accepted Taliban's main demand. Now the international community expects the Taliban to join the political process. There is no excuse to continue the war

Pakistan: Friendly Power & Burden of Chaos

- The Taliban are a creation of the Pakistani security establishment. After the US invasion of Afghanistan, they removed themselves to safe havens in Pakistan territory, and the Taliban High Council operated from Quetta in Balochistan.

- For Pakistan, the Taliban capture of Afghanistan would finally bring a friendly force in power in Kabul after 20 years and India (which had friendly relations with Afghani govt.) would be cut to size.

- But a US withdrawal also means Pakistan will need to shoulder the entire burden of the chaos that experts predict.

- Civil war is not ruled out and with it, the flow of refugees into Pakistan once again, even as the country struggles with refugees from the first Afghan war.

- The Taliban are not a monolith, and have recently shown streaks of independence from Pakistan. It has to guard against instability in Afghanistan from spilling over the border

India: Time to be Wary

- India was on the outer edges of the Trump drive to exit Afghanistan that culminated in the Doha Accord, and was a reluctant supporter of the "intra-Afghan talks" between the Taliban and Afghan government.

- When the Biden Administration came in, India was hopeful of a US reset.

- The Blinken proposal gave India a role, by recognising it as a regional stakeholder, but this proposal seems to have no future.

- Another concern would be India-focused militants such as Laskhar- e-Toiba and Jaish-e-Mohamed, which the Indian security establishment already believes to have relocated in large numbers to Afghanistan

China: Uighurs and an ally in Pakistan

- China would have much to lose from instability in Afghanistan as this could have an impact on the China Pakistan Economic Corridor.

- A Taliban regime in Afghanistan might end up stirring unrest in the Xinjiang Autonomous region, home to the Uighur minority.

- Conversely, as an ally of Pakistan, it could see a bigger role for itself in Afghanistan.

Russia: Full circle

- The US exit is for Russia a full circle after its own defeat at the hands of US-backed Mujahideen and exit from Afghanistan three decades ago.

- In recent years, Russia has taken on the role of peacemaker in Afghanistan.

- Russia's growing links with Pakistan could translate into a post-US role for Moscow in Afghanistan.

- Iran: Threat, Theological divide & Pragmatism
- As a country that shares borders with Pakistan and Afghanistan, Iran perceives active security threats from both. And a Taliban regime in Kabul would only increase this threat perception.
- But Iran, with links to the Hazaras in Afghanistan, has of late played all sides.
- Despite the mutual hostility and the theological divide between the two, Iran opened channels to the Taliban a few years ago, and recently, even hosted a Taliban delegation at Tehran.

2.17 The Council Of The European Union

- The Council of the European Union approved conclusions on a European Union strategy for cooperation in the Indo-Pacific to reinforce its strategic focus to contribute to regional stability at a time of "rising challenges and tensions in the region.
- The Council tasked the High Representative and the Commission with putting forward a Joint Communication on cooperation in the Indo-Pacific by September 2021.
- The EU will aim to promote effective rules-based multilateralism, reiterating its support for ASEAN (Association of southeast Asian Nations) centrality, a point also stressed by India.
- The Council of the European Union is the third of the seven institutions of the European Union (EU) as listed in the Treaty on European Union.
- It is one of three legislative bodies and together with the European Parliament serves to amend and approve the proposals of the European Commission, which holds the legislative initiative.
- It was founded on 1 July 1967.

2.18 India And Germany Plastic Pollution Agreement

- India and Germany signed an agreement on 'Cities combating plastic entering the marine environment'.
- The Ministry of Housing and Urban Affairs (MoHUA), Government of India, and German Federal Ministry of Environment signed an agreement on Technical Cooperation titled 'Cities Combating Plastic Entering the Marine Environment'.
- The project's outcomes are in line with the objectives of Swachh Bharat Mission-Urban focusing on sustainable solid waste management and Hon'ble Prime Minister's vision to phase out single-use plastic by 2022".
- This project is envisaged under the contours of the Joint Declaration of Intent regarding cooperation in the field of 'Prevention of Marine Litter' signed between India and Germany in 2019.
- The project, aimed at enhancing practices to prevent plastic from entering the marine environment, will be undertaken at the national level (at MoHUA), select states (Uttar Pradesh, Kerala, and Andaman & Nicobar Islands) and in the cities of Kanpur, Kochi and Port Blair for a period of three and a half years.

2.19 World Press Freedom index

- The World Press Freedom Index 2021 has been released by the media watchdog group Reporters Without Borders.
- Norway topped the index for the fifth year in a row.
- The report labelled 132 countries as "very bad", "bad" or "problematic".
- It stated that the pandemic was used as means to deny journalists this access and promote government sponsored propaganda regarding the Covid-19 outbreak.

Performance of India and neighbours:

- India remained at the 142nd position among 180 countries.
- India was ranked in the "bad" category, along with Brazil, Mexico and Russia.
- The report says India is one of the world's most dangerous countries for journalists trying to do their job properly.
- In 2016, India's rank was 133, which has steadily climbed down to 142 in 2020.
- India drew flak for "extremely violent social media hate campaigns" against journalists who "dare to criticise" the government.

About World Press Freedom Index:

- Published annually by Reporters Without Borders since 2002, the World Press Freedom Index measures the level of media freedom in 180 countries.
- It is based on an evaluation of media freedom that measures pluralism, media independence, the quality of the legal framework and the safety of journalists.
- It also includes indicators of the level of media freedom violations in each region.
- It is compiled by means of a questionnaire in 20 languages that is completed by experts all over the world. This qualitative analysis is combined with quantitative data on abuses and acts of violence against journalists during the period evaluated.

2.20 USCIRF report

- The U.S. Commission on International Religious Freedom (USCIRF), an independent bi-partisan commission, has released its 2021 annual report.

Highlights of the report:

- The report designated 14 countries as "countries of particular concern (CPCs)" as "their governments are engaged in or tolerate "systematic, ongoing, and egregious violations of religious freedom." This includes India.
- Observations made about religious freedom in India by USCIRF:
- This year, USCIRF said that religious freedom conditions in India "continued their negative trajectory".

- The government promoted Hindu nationalist policies resulting in systematic, ongoing, and egregious violations of religious freedom.
- It particularly noted the passage of the "religiously discriminatory" Citizenship Amendment Act.
- The report indicated that there was seeming police complicity in the Delhi riots.
- Further, the report alleged that "government action including the acquittal of all individuals accused of demolishing the Babri Masjid mosque—as well as government inaction to address religious violence contributed to a culture of impunity for those promulgating hate and violence toward religious minorities.

Recommendations made by USCIRF:

- The administration should impose targeted sanctions on Indian individuals and entities for 'severe violations of religious freedom'.
- It should promote inter-faith dialogue and the rights of all communities at bilateral and multilateral forums "such as the ministerial of the Quadrilateral [the Quad]."
- Raise issues in the U.S. – India bilateral space, such as by hosting hearings, writing letters and constituting Congressional delegations.

Implications:

- USCIRF recommendations are non-binding and the Trump administration had rejected the USCIRF recommendation to designate India a CPC last year, when it released its own determinations in December.
- WHAT IS THE U. S. COMMISSION ON INTERNATIONAL RELIGIOUS FREEDOM (USCIRF)?
- USCIRF is an independent, bipartisan, U.S. federal government commission created by the 1998 International Religious Freedom Act (IRFA) that monitors the universal right to freedom of religion or belief abroad.

- USCIRF uses international standards to monitor religious freedom violations globally, and makes policy recommendations to the President, the Secretary of State, and Congress.
- What are CPCs?
- CPC is designated to a nation guilty of particularly severe violations of religious freedom under the International Religious Freedom Act (IRFA) of 1998. The term 'particularly severe violations of religious freedom' means systematic, ongoing, egregious violations of religious freedom.

2.21 Armenian Genocide

- Every year, Armenian Genocide Remembrance Day will be marked on April 24.

Armenian Genocide:

- The Armenian Genocide is often called the first genocide of the twentieth century. It refers to the systematic annihilation of Armenians living in the Ottoman Empire between 1915 to 1917.
- According to estimates, approximately 1.5 million Armenians died during the genocide, either in massacres and in killings, or from ill treatment, abuse and starvation.
- The Armenian diaspora marks April 24 as Armenian Genocide Remembrance Day.
- While Turkey disagrees, the consensus among historians is that during the Armenian Genocide, between 1915 to 1922, in the First World War, thousands of Armenians perished due to killings, starvation and disease, when they were deported by Ottoman Turks from eastern Anatolia.
- The International Association of Genocide Scholars estimates that more than 1 million Armenians may have died.
- Researchers say that the acknowledgement by the US government would have little legal impact on Turkey, other than becoming a cause for embarrassment for the country and perhaps giving other countries the impetus to also acknowledge the genocide.

2.22 Codex Committee on Spices and Culinary Herbs (CCSCH)

- The session was recently inaugurated by the Food Safety and Standards Authority of India (FSSAI).
- CCSCH has been established under Codex Alimentarius Commission (CAC).

About the Codex Committee on Spices and Culinary Herbs (CCSCH):

- Formed in 2013.
- Its main function is to elaborate worldwide standards for spices and culinary herbs in their dried and dehydrated state in whole, ground, and cracked or crushed form.
- It will also consult, as necessary, with other international organizations in the standards development process to avoid duplication.
- India is the host country and Spices Board (Ministry of Commerce and Industry) is the Secretariat for organising the sessions of the committee.

About the Codex Alimentarius Commission (CAC):

- It is an intergovernmental body established jointly by the UN's Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO) in 1963, within the framework of the Joint Food Standards Programme.
- The Secretariat of the CAC is hosted at FAO headquarters in Rome.
- It was established to protect the health of consumers and ensure fair practices in the food trade.
- It meets in regular session once a year alternating between Geneva and Rome.
- Currently, it has 189 Codex Members.

Codex Alimentarius:

- It is a collection of international food standards that have been adopted by the CAC.
- The Standards cover all the main foods, whether processed, semi-processed or raw, materials used in the further processing of food products.
- Codex provisions concern the hygienic and nutritional quality of food, including microbiological norms, food additives, pesticide and veterinary drug residues.

2.23 KOWLOON PENINSULA

- Hong Kong is set to grant a site on the western Kowloon peninsula, to China's national security office for its permanent base in the city.
- The Kowloon Peninsula is a peninsula that forms the southern part of the main landmass in the territory of Hong Kong, alongside Victoria Harbour and facing toward Hong Kong island.

3. INDIAN ECONOMY

3.1 Special Purpose Acquisition Companies (SPACS)

- A SPAC, or a blank-cheque company, is an entity specifically set up with the objective of acquiring a firm in a particular sector.
- Aim: To raise money in an initial public offering (IPO), and at this point in time, it does not have any operations or revenues.
- Once the money is raised from the public, it is kept in an escrow account, which can be accessed while making the acquisition.
- If the acquisition is not made within two years of the IPO, the SPAC is delisted, and the money is returned to the investors.
- Certain market participants believe that, through a SPAC transaction, a private company can become a publicly-traded company with more certainty as to pricing and control over deal terms as compared to traditional IPOs.
- Earlier this month, the US Securities and Exchange Commission (SEC) issued an investor alert, which was the first warning of sorts for special purpose acquisition companies (SPACs).
- Indian context:
- In India, renewable energy producer ReNew Power last month announced an agreement to merge with RMG Acquisition Corp II, a blank-cheque company.
- It became the first involving an Indian company during the latest boom in SPAC deals.

3.2 China's digital currency

- China in February launched the latest round of pilot trials of its new digital currency, with reported plans of a major roll-out by the end of the year and ahead of the Winter Olympics in Beijing in February 2022.

How does China's digital currency work?

- Officially titled the Digital Currency Electronic Payment (DCEP), the digital RMB (or Renminbi, China's currency) is a digital version of China's currency. It can be downloaded and exchanged via an application authorised by the People's Bank of China (PBOC), China's central bank.

Key features of the digital currency:

- This is a legal tender guaranteed by the central bank, not a payment guaranteed by a third-party operator.
- There is no third-party transaction, and hence, no transaction fee.
- Unlike e-wallets, the digital currency does not require Internet connectivity. The payment is made through Near-field Communication (NFC) technology.

- Unlike non-bank payment platforms that require users to link bank accounts, this can be opened with a personal identification number.

3.3 Repo rate remains unchanged at 4%

- RBI's Monetary Policy Committee (MPC) has decided to keep its repo rate unchanged at 4%, in line with market expectations.

Key takeaways

- RBI will maintain its 'accommodative stance' as long as required to sustain growth on a durable basis.
- The RBI maintained its GDP growth forecast at 10.5% for 2021-22.
- RBI also announced a series of measures to inject liquidity in the government securities market and the financial system.
- It will ensure orderly conduct of government borrowing programmes.
- In this respect, it announced a secondary market government securities (G-sec) acquisition plan worth Rs 1 lakh crore for April-June.
- RBI has decided to set up a committee to review the working of Asset Reconstruction Companies to ensure how better these entities can support the financial sector.
- In the policy review, the RBI decided to extend the RTGS and NEFT payments platforms to prepaid payment instruments, white label ATMs as well.

3.4 PLI scheme for white goods

- The Union Cabinet approved the Production Linked Incentive (PLI) Scheme for White Goods (Air Conditioners and LED Lights) with a budgetary outlay of Rs. 6,238 crore.
- The PLI Scheme for White Goods shall extend an incentive of 4% to 6% on incremental sales of goods manufactured in India for a period of five years to companies engaged in manufacturing Air Conditioners and LED Lights.
- An entity availing benefits under any other PLI Scheme of Govt. India will not be eligible under this scheme for the same products but the entity may take benefits under other applicable schemes of Govt. of India or schemes of State governments.
- The Scheme will be implemented as a pan India scheme and is not specific to any location, area, or segment of the population. A number of global and domestic companies, including a number of MSMEs are likely to benefit from the Scheme.

Benefits:

- It is estimated that over the period of five years, the PLI Scheme will lead to an incremental investment of Rs. 7,920 Crore, incremental Production worth Rs. 1,68,000 Crore, exports worth Rs

64,400 Crore, earn direct and indirect revenues of Rs 49,300 crore and create additional four lakh direct and indirect employment opportunities.

White goods:

- A major appliance, also known as a large domestic appliance or large electric appliance is a non-portable or semi-portable machine used for routine housekeeping tasks such as cooking, washing laundry, or food preservation.

- Such appliances are sometimes collectively known as white goods, as the products were traditionally white in colour, although a variety of colours are now available.

3.5 Copyright (Amendment) Rules, 2021

- In India, the copyright regime is governed by the Copyright Act, 1957 and the Copyright Rules, 2013.

- The Copyright Rules, 2013 were last amended in the year 2016.

- The objective of the amendments is to bring the existing rules in parity with other relevant legislations.

- A new provision regarding publication of a copyrights journal has been incorporated, thereby eliminating the requirement of publication in the Official Gazette. The said journal would be available at the website of the Copyright Office.

- In order to encourage accountability and transparency, new provisions have been introduced, to deal with the undistributed royalty amounts and use of electronic and traceable payment methods while collection and distribution of royalties.

- To reinforce transparency in the working of copyright societies a new rule has been introduced, whereby the copyright societies will be required to draw up and make public an Annual Transparency Report for each financial year.

- The amendments have harmonized the Copyright Rules with the provisions of Finance Act, 2017 whereby the Copyright Board has been merged with the Appellate Board.

- The compliance requirements for registration of software works have been largely reduced, as now the applicant has the liberty to file the first 10 and last 10 pages of source code, or the entire source code if less than 20 pages, with no blocked out or redacted portions.

- The time limit for the Central Government to respond to an application made before it for registration as a copyright society is extended to 180 days so that the application can be more comprehensively examined.

3.6 Startup India Seed Fund Scheme (SISFS)

- Startup India Seed Fund Scheme (SISFS) was recently launched by the Ministry of Commerce and Industry .

Key takeaways

- Aim: To provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization.
- An amount of 945 crore rupees corpus will be divided over the next 4 years for providing seed funding to eligible startups through eligible incubators across India.
- The scheme is expected to support an estimated 3,600 startups through 300 incubators.
- The SISFS will Secure seed funding, Inspire innovation, Support transformative ideas, Facilitate implementation, and Start startup revolution.
- This Scheme will create a robust startup ecosystem, particularly in Tier 2 and Tier 3 towns of India, which are often deprived of adequate funding.

3.7 RBI sets up committee to review working of ARCs

- The RBI has set up a committee headed by SudarshanSen to undertake a comprehensive review of the working of asset reconstruction companies (ARCs) in the financial sector ecosystem and recommend suitable measures for enabling them to meet the growing requirements.

Terms of reference:

- To review the existing legal and regulatory framework applicable to ARCs and recommend measures to improve efficacy of ARCs.
- To review the role of ARCs in the resolution of stressed assets, including under the Insolvency and Bankruptcy Code (IBC), and give suggestions for improving liquidity in and trading of security receipts.

What is an Asset Reconstruction Company (ARC)?

- It is a specialized financial institution that buys the Non-Performing Assets (NPAs) from banks and financial institutions so that they can clean up their balance sheets. This helps banks to concentrate in normal banking activities. Banks rather than going after the defaulters by wasting their time and effort, can sell the bad assets to the ARCs at a mutually agreed value.
- The asset reconstruction companies or ARCs are registered under the RBI.

Legal Basis:

- The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 provides the legal basis for the setting up of ARCs in India.
- The SARFAESI Act helps reconstruction of bad assets without the intervention of courts. Since then, a large number of ARCs were formed and were registered with the Reserve Bank of India (RBI) which has got the power to regulate the ARCs.

Capital Needs for ARCs:

- As per amendment made in the SARFAESI Act in 2016, an ARC should have a minimum net owned fund of Rs. 2 crores.
- The RBI raised this amount to Rs. 100 crores in 2017. The ARCs also have to maintain a capital adequacy ratio of 15% of its risk weighted assets.

3.8 India's public debt level among highest in emerging economies

- As per Moody's Investors Service, India's public debt level is among the highest in emerging economies with a quantitative easing programme underway, while its debt affordability is among the weakest.

What is Public Debt?

- Public debt is the total amount borrowed by the government of a country.
- In the Indian context, public debt includes the total liabilities of the Union government that have to be paid from the Consolidated Fund of India. It excludes liabilities contracted against Public Account.

Sources of Public Debt:

    1.Dated government securities or G-secs

    2.Treasury Bills or T-bills

    3.External Assistance

    4.Short term borrowings

Public Debt definition by Union Government

- The Union government describes those of its liabilities as public debt, which are contracted against the Consolidated Fund of India. This is as per Article 292 of the Constitution.

Types:

- It is further classified into internal & external debt.
- Internal debt is categorised into marketable and non-marketable securities.
- 1.Marketable government securities include G-secs and T-Bills issued through auction.
- 2.Non-marketable securities include intermediate treasury bills issued to state governments, special securities issued to national Small Savings Fund among others.

What is Debt-to-GDP ratio?

- The debt-to-GDP ratio indicates how likely the country can pay off its debt. Investors often look at the debt-to-GDP metric to assess the government's ability of finance its debt. Higher debt-to-GDP ratios have fuelled economic crises worldwide.

Is there an acceptable level of debt-to-GDP?

- The NK Singh Committee on FRBM had envisaged a debt-to-GDP ratio of 40 per cent for the central government and 20 per cent for states aiming for a total of 60 per cent general government debt-to-GDP.

3.9 AahaarKranti Mission

- The mission is aimed to spread the message of the need for a nutritionally balanced diet and to understand the importance of accessible to all local fruits and vegetables.

- VijnanaBharati (Vibha) and Global Indian Scientists' and Technocrats' Forum (GIST) have come together to launch the mission with the motto of 'Good Diet-Good Cognition'.

- The `AahaarKranti' movement is designed to address the problem of `hunger and diseases in abundance'.

- Union Ministry of Science and Technology's Council of Scientific and Industrial Research (CSIR)'s PravasiBharatiya Academic and Scientific Sampark (Prabhaas) is collaborating, and various central and state government ministries and agencies are involved.

- The programme will focus on training teachers, who, in turn, will pass on the message to the multitudes of students, and through them to their families and finally the society at large. Such a strategy was adopted for the eradication of Polio and it turned out to be a grand success.

- Studies estimate that India produces as much as two times the amount of calories that it consumes.

- However, many in the country are still malnourished.

- The root cause of this strange phenomenon is a lack of nutritional awareness in all sections of our society.

- The United Nations has also declared 2021 as the International Year of Fruits and Vegetables, which vibes very well with AahaarKranti. Fruits and vegetables make a large part of a balanced diet.

- Further, UN sustainable goal # 3 emphasizes human well-being reads, "Ensure healthy lives and promote well-being for all at all ages."

- This goal too makes AahaarKranti more meaningful. Diet and well-being are inseparable partners.

3.10 Government Securities Acquisition Programme (G-SAP)

- The RBI has officially notified that it would conduct the first phase of G-SAP 1.0 operations.

- It will begin with the purchase of five dated securities for an amount aggregating to Rs 25,000 crore.

- The first phase of G-SAP purchase will happen using the multiple price method under which the bidders pay at the respective rate they had bid.

- The RBI has notified four securities for the G-Sec purchase in different maturities.

- In addition to the G-SAP plan, the RBI will also continue to deploy regular operations.

- This would be under the LAF, longer-term repo/reverse repo auctions, forex operations and open market operations including special OMOs.
- This is to ensure that the liquidity conditions evolve in consonance with the stance of monetary policy.

What are the concerns?

- Interest rates – For the Government, the RBI keeping the yield down is a good news because the overall borrowing costs go down.
- But, the RBI artificially keeping the interest rates lower in the financial system has caused concerns.
- In healthy economic system, the interest rates pricing should be driven by demand-supply.
- It shouldn't be artificially suppressed by the central bank; this might lead to distortions and have other consequences.
- Savers – Cheaper rates will be good news to big, top rated companies who can issue bonds to raise money and to the government.
- But low interest rates coupled with high inflation is a systemic worry for savers.
- Already, savers are getting negative returns on their deposits if one takes into account the inflation adjusted rates or real rates.
- Rupee – Government resorting to massive bond purchase to keep the rates low is not good news for the local currency.
- The Indian Rupee, notably, came under pressure after the RBI announced the massive Rs 1 lakh crore bond purchase programme.
- The fear of investors pulling capital out of India in a low interest environment is hurting the local currency.

3.11 Boosting Poppy yield

- The Union government has decided to rope in the private sector to commence production of concentrated poppy straw from India's opium crop.
- Among the few countries permitted to cultivate the opium poppy crop for export and extraction of alkaloids, India currently only extracts alkaloids from opium gum at facilities controlled by the Revenue Department in the Finance Ministry.
- This entails farmers extracting gum by manually lancing the opium pods and selling the gum to government factories.
- The Ministry has decided to switch to new technologies, after trial cultivation reports by two private firms showed higher extraction of alkaloids using the concentrated poppy straw (CPS).

- The move is planned to boost the yield of alkaloids used for medical purposes and exported to several countries.
- It is likely to require amendments to the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.

3.12 Stand Up India Scheme

- Five years ago the Stand Up India scheme was launched by the government to promote entrepreneurship among women, Scheduled Castes (SC) & Scheduled Tribes (ST).
- So far, banks have sanctioned more than ₹25,000 crore to over 1.14 lakh accounts.
- Women-led enterprises have dominated the sanctions so far under the scheme, which has now been extended till 2025.

About the Stand Up India Scheme:

- Stand Up India Scheme was launched on 5 April 2016 to promote entrepreneurship at the grass-root level of economic empowerment and job creation.
- This scheme seeks to leverage the institutional credit structure to reach out to the underserved sector of people such as SCs, STs and Women Entrepreneurs.
- The objective of this scheme is to facilitate bank loans between Rs.10 lakh and Rs.1 crore to at least one SC or ST borrower and at least one woman borrower per bank branch for setting up a Greenfield enterprise.
- The offices of SIDBI and NABARD shall be designated Stand-Up Connect Centres (SUCC).

Eligibility under Stand Up India Scheme:

- SC/ST and/or women entrepreneurs; above 18 years of age.
- Loans under the scheme are available for only Greenfield project.
- Borrower should not be in default to any bank or financial institution.
- In case of non-individual enterprises at least 51% of the shareholding and controlling stake should be held by either an SC/ST or Woman entrepreneur.

3.13 Emergency Credit Line Guarantee Scheme (ECLGS)

- The government has extended the ₹3-lakh-crore emergency credit line guarantee scheme by another three months till June 30 and also widened its scope to new sectors, including hospitality, travel and tourism.

Details:

- ECLGS 3.0 would involve extending credit of up to 40% of total credit outstanding across all lending institutions as on February 29, 2020.
- The tenor of loans granted under ECLGS 3.0 would be 6 years, including a moratorium period of 2 years.

About the scheme:

- The scheme was launched as part of the Aatmanirbhar Bharat Abhiyan package announced in May 2020 to mitigate the distress caused by coronavirus-induced lockdown, by providing credit to different sectors, especially Micro, Small and Medium Enterprises (MSMEs).
- 100% guarantee coverage is being provided by the National Credit Guarantee Trustee Company, whereas Banks and Non Banking Financial Companies (NBFCs) provide loans.
- The credit will be provided in the form of a Guaranteed Emergency Credit Line (GECL) facility.
- No Guarantee Fee shall be charged by NCGTC from the Member Lending Institutions (MLIs) under the Scheme.
- Interest rates under the Scheme shall be capped at 9.25% for banks and FIs, and at 14% for NBFCs.

Eligibility:

- Borrowers with credit outstanding up to Rs. 50 crore as on 29th February, 2020, and with an annual turnover of up to Rs. 250 crore are eligible under the Scheme.
- On 1st August 2020, the government widened the scope of the Rs. 3 lakh crore-ECLGS scheme by doubling the upper ceiling of loans outstanding and including certain loans given to professionals like doctors, lawyers and chartered accountants for business purposes under its ambit.

Benefits of the scheme:

- The scheme is expected to provide credit to the sector at a low cost, thereby enabling MSMEs to meet their operational liabilities and restart their businesses.
- By supporting MSMEs to continue functioning during the current unprecedented situation, the Scheme is also expected to have a positive impact on the economy and support its revival.

3.14 Inflation targeting

- The Centre has decided to retain the inflation target of 4%, with a tolerance band of +/- 2 percentage points for the Monetary Policy Committee of the RBI for the coming five years.

What is inflation targeting?

- It is a central banking policy that revolves around adjusting monetary policy to achieve a specified annual rate of inflation.
- The principle of inflation targeting is based on the belief that long-term economic growth is best achieved by maintaining price stability, and price stability is achieved by controlling inflation.

Inflation Targeting Framework:

- Now there is a flexible inflation targeting framework in India (after the 2016 amendment to the Reserve Bank of India (RBI) Act, 1934).
- Who sets the inflation target in India?

- The amended RBI Act provides for the inflation target to be set by the Government of India, in consultation with the Reserve Bank, once every five years.

Current Inflation Target:

- The Central Government has notified 4 per cent Consumer Price Index (CPI) inflation as the target for the period from August 5, 2016, to March 31, 2021, with the upper tolerance limit of 6 per cent and the lower tolerance limit of 2 per cent.

3.15 DGFT 'Trade Facilitation ' mobile App

- DGFT 'Trade Facilitation' Mobile App was recently launched for promoting ease of doing business and providing quick access to information to importers/exporters by the Ministry of Commerce & Industry Minister.

Key takeaways

- Developed by the Tata Consultancy Services (TCS), as per the directions of the Directorate General of Foreign Trade (DGFT).

It provides:

- 1.Real-time trade policy updates, notifications, application status alert, tracking help requests
- 2.Explore item-wise Export-Import policy & statistics, Track IEC Portfolio
- 3.AI-based 24*7 assistance for trade queries
- 4.DGFT services made accessible to all
- 5.Your Trade Dashboard accessible anytime &anywhere.

3.16 M Narasimham

- Narasimham was known for being the chair of two high-powered committees on banking and financial sector reforms.
- Such is the importance of the two Narasimham Committees that some of their aspects are referred to and employed to this date. For instance, the idea of bank mergers and creating strong megabanks was first mooted by the Narasimham Committee.

First Narasimham Committee Report:

- Presented in 1991.
- It recommended the creation of a four-tier banking structure with three large banks on top.
- It also introduced the concept of rural-focused banks such as local area banks.
- It proposed a phased reduction in banks' mandatory bond investment and cash reserve limits so that banks lend money for other productive needs of the economy.
- It introduced the concept of capital adequacy ratio and proposed the abolition of the branch licensing policy.

- The concepts of non-performing assets classification and full disclosure of accounts were also recommended by the first committee.
- By proposing to deregulate interest rates, it brought in gre-ater competition among banks.
- The committee introduced the concept of an asset reconstruction fund to take over bad debts.

Narasimham Committee Report II – 1998:

- In 1998 the government appointed yet another committee under the chairmanship of Mr Narsimham. It is better known as the Banking Sector Committee. It was told to review the banking reform progress and design a programme for further strengthening the financial system of India. The committee focused on various areas such as capital adequacy, bank mergers, bank legislation, etc.

3.17 SWAMITVA Scheme

- Prime Minister NarendraModi launched the distribution of e-property cards under the SWAMITVA scheme on 24th April 2021 (National Panchayati Raj Day).
- Nine lakh property owners will be given their e-property cards on this occasion, which will also mark the rolling out of the SVAMITVA scheme for implementation across the country.
- SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) was launched by Prime Minister on 24th April 2020 as a Central Sector Scheme to promote a socio-economically empowered and self-reliant rural India.
- The Scheme has the potential to transform rural India using modern technical tools of mapping and surveying. It paves the way for using the property as a financial asset by villagers for availing loans and other financial benefits.
- The Scheme will cover around 6.62 Lakh villages of the entire country during 2021-2025.
- The pilot phase of the Scheme was implemented during 2020–2021 in the States of Maharashtra, Karnataka, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, and select villages of Punjab and Rajasthan.

3.18 Compulsory Licensing

- Russia is planning to fly special planes with a wide range of COVID-related assistance including oxygen generators and concentrators as well as drugs needed for the treatment of the coronavirus that is ravaging many parts of India.
- However, Russia may have to hold off sending the drug Remdesivir owing to U.S. patent violations.
- What's the issue?
- Exports of Remdesivir have run into trouble with U.S. licensing laws invoked by Remdesivir developer, California-based Gilead Sciences Inc.

- Remdesivir, that was cleared for COVID-19 treatment by the US Food and Drug Administration (FDA) in October 2020, is being made in Russia after the government in Moscow decided to defy the international patent held by Gilead, and issued an ordinance allowing Russian company Pharmasyntez to manufacture the drug under a "compulsory licence".

- What is compulsory Licensing?

- Compulsory License is a licence issued/authorised by the government that allows the company or an individual seeking other's intellectual property to use it (making, using and selling a patented product or employing a patented process) without having to seek the consent of the owner/the right holder, by paying a predetermined fee for the license.

- Indian Patents Act 1970 and the Agreement on Trade-Related Aspects of Intellectual Property Rights deal with compulsory licensing.

- The application for a compulsory license can be made any time after 3 years from the date of sealing of a patent.

4   ENVIRONMENT

4.1   National climate vulnerability assessment Report:

- The National climate vulnerability assessment report released on April 17, 2021 by DST secretary ProfAshutosh Sharma.
- The report is titled 'Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework', which identifies the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.

Who has prepared the report?

- The report has been prepared by IIT,Mandi; IIT, Guwahati in collaboration with IISC, Bengaluru with support from Department of S&T and Swiss agency for Development and Cooperation(SDC).
- A total of 94 representatives from 24 states and 2 Union Territories participated in the nation-wide exercise jointly supported by the DST and the Swiss Agency for Development & Cooperation (SDC).

Is it first such report in India?

- It is first such report at the union level, however it has been inspired by a report which studied the vulnerability of the Himalayan region. This report was also prepared by IIT, Mandi and IIT Guwahati with the help of IISc, Bengaluru.

Why the need for such a report?

- Most of the states, districts in India have prepared vulnerability profiles   based on the definition of vulnerability according to the 4th IPCC-AR(2007). Latest IPCC-AR was released in 2014 which has given state-of-the art definition for vulnerability.
- Each state has developed its own framework which are not comparable with other states, and this leads to difficulty when we try to assess vulnerability of India as a whole.
- Identify the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.
- We have seen how extreme events are on rise both in terms of their number and severity. Mapping the parts of India that are vulnerable to such changes will help initiating climate actions at the ground level.
- The assessments can further be used for India's reporting on the Nationally Determined Contributions under the Paris Agreement.
- These assessments will support India's National Action Plan on Climate Change.

Important findings of the report:

- The report has helped identify the most vulnerable States, Districts &Panchayats and will aid in prioritizing adaptation investment, developing and implementing adaptation programs.

- The National climate vulnerability assessment report has identified Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh, and West Bengal as states highly vulnerable to climate change. These states, mostly in the eastern part of the country, require prioritization of adaptation interventions, the report pointed out.

- Among all states, Assam, Bihar, and Jharkhand have over 60% districts in the category of highly vulnerable districts.

Note:

- DST has been implementing 2 national missions on climate change as part of the National Action Plan on Climate Change.

- These are National Mission for Sustaining the Himalayan Ecosystem (NMSHE) and National Mission on Strategic Knowledge for Climate Change (NMSKCC).

- As part of these missions, DST has been supporting the State Climate Change Cells in 25 States and Union Territories. Besides other tasks assigned to these State CC Cells, carrying out assessment of vulnerability due to climate change at district and sub-district levels has been their primary responsibility, and the national level vulnerability assessment an extension of the same.

4.2 Indo-US Clean Energy Agenda 2030 Partnership:

- PRIME MINISTER NarendraModi and US President Joe Biden launched the India-US Clean Energy Agenda 2030 Partnership at the Leaders Summit on Climate hosted by the US.

- It is a joint climate and clean energy initiative of India with the US.

- It will demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.

Objective:

- Mobilise investments, demonstrate clean technologies and enable green collaborations in India that could also create templates of sustainable development for other developing countries.

Two Main Tracks of the Initiative:

- The Strategic Clean Energy Partnership.

- The Climate Action and Finance Mobilization Dialogue.

India's Stand :

Emissions:

- India was already doing its part and that the country's per capita carbon emissions are 60% lower than the global average.

Commitment:

India's ambitious renewable energy target of 450GW by 2030.

- Despite its development challenges, India has taken many bold steps on clean energy, energy efficiency, afforestation and biodiversity. India is among few countries whose NDCs are 2°C compatible.

Emphasis:

- Emphasised its encouragement of global initiatives such as the International solar alliance and the coalition for disaster resilience infrastructure.

US'- Stand:

Pledged:

- To cut the US's Green House Gases(GHG) in half by the year 2030 and called upon other nations to "set higher climate ambitions" that will create jobs at home, advance innovative technologies and help countries vulnerable to the impact of climate change.
- To double its public climate financing to developing countries and triple public financing for climate adaptation in developing countries by 2024.

NDC:

- It submitted a new Nationally Determined Contributions(NDC) target that aims to reduce its GHG emissions by 50-52% below 2005 levels.
- The US has rejoined the Paris Agreement.

4.3 Doomsday Glacier:

- It is Called the Thwaites Glacier, it is 120 km wide at its broadest, fast-moving, and melting fast over the years.
- Because of its size (1.9 lakh square km), it contains enough water to raise the world sea level by more than half a metre.
- Researchers from Sweden's University of Gothenburg have been able to obtain data from underneath Thwaites Glacier, they found that the supply of warm water to the glacier is larger than previously thought, triggering concerns of faster melting and accelerating ice flow.
- Today, Thwaites's melting already contributes 4% to global sea level rise each year. It is estimated that it would collapse into the sea in 200-900 years.
- Thwaites is important for Antarctica as it slows the ice behind it from freely flowing into the ocean.
- Because of the risk it faces, and poses, Thwaites is often called the Doomsday Glacier (Doomsday meaning warning or threat, something that can cause destruction).

Antarctica's doomsday glacier explored
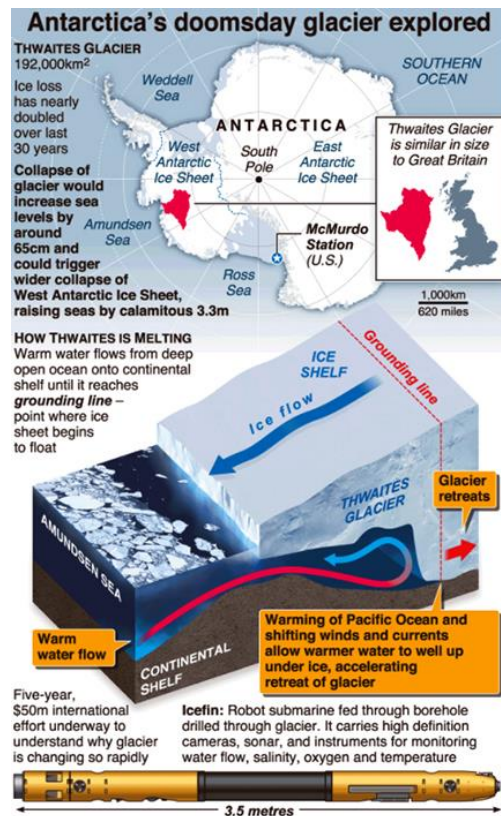
4.4 Danube Sturgeon:

- Sturgeons have **existed since the time of dinosaurs,** for about **200 million years.** They are called 'living fossils' because their appearance has altered very little over the years.

- **Living Fossil** is an organism that has **remained unchanged from earlier geologic times** and whose close relatives are usually extinct.
- **Note:** Ginkgo trees and horseshoe crab are also living fossils.
- Sturgeon are good indicators **for the health of the river and other ecological parameters.** Danube sturgeons live mostly in the **Black Sea,** migrating up the Danube and other major rivers to spawn.

- According to a report released by the World Wildlife Fund(WWF), illegal sale of **Danube Sturgeon,** one of the **most endangered species** in the world, is rampant in the lower Danube (River) region, especially in Bulgaria, Romania, Serbia and Ukraine.

4.5 Indian Rhino Vision 2020:

- The program was launched in 2005 with a goal to attain at least 3000 one horned Rhino population across seven protected areas by 2020. The program came to a close with the translocation of two Rhinos to Manas National Park in Assam.

- The translocated rhinos **helped Manas National Park get back its world heritage site status.**

- **Seven protected areas** are **Kaziranga, Pobitora, Orang National Park, Manas National Park, Laokhowa wildlife sanctuary, Burachapori wildlife sanctuary** and **DibruSaikhowa wildlife sanctuary.**

- It is **a collaborative effort** between various organisations, including the International Rhino Foundation, Assam's Forest Department, Bodoland Territorial Council, World Wide Fund - India, and the US Fish and Wildlife Service.

● **Target of attaining a population of 3,000 rhinos almost achieved** but the **animal could be reintroduced in only one of the four protected areas planned.**

● **The plan to introduce the rhino in three protected areas- Laokhowa, Burachapori wildlife sanctuary and Dibru-Saikhowa National Park did not quite work out.**

4.6 Dolphin census(2021) by Odisha:

● **The population of Dolphins in Chilka, India's largest brackish water lake, and along the Odisha coast has doubled this year compared with last year.**

● **Three species were recorded** during the census, with 544 **Irrawaddy, bottle-nose and humpback dolphins** sighted this year, compared with 233 last year.

● The rise in the Irrawaddy population in Chilika can be attributed to the eviction of illegal fish enclosures.

● Humpback dolphins were not part of any riverine systems, so they cannot be identified as residential mammals. They were spotted travelling along the Odisha coast.

About Irrawaddy Dolphins:

● **Habitat:** Irrawaddy dolphins are **found in coastal areas in South and Southeast Asia,** and in **three rivers:** the Ayeyarwady (Myanmar), the Mahakam (Indonesian Borneo) and the Mekong.

● The Mekong River Irrawaddy dolphins inhabit a 118-mile stretch of the river between Cambodia and Lao PDR.

About Indian Ocean Humpback Dolphins:

● **Habitat:** The Indian Ocean Humpback Dolphin occurs within the Indian Ocean from South Africa to India.

About Indo- Pacific Bottlenose Dolphins:

● **Habitat:** Indo-Pacific Bottlenose Dolphins generally occur in shallow coastal waters of the **Indian Ocean, Southeast Asia and Australia.**

● All the **three types of dolphins**are   protected under Schedule -I under **Wildlife protection act, 1972.**

- *Indian ocean Humpback dolphin and Irrawaddy Dolphins are classified as endangered species by IUCN. Indo-pacific bottlenose dolphins are classified as near threatened by IUCN.*

4.7 Exotic animals:

- The term exotic **refers to a wild animal or one that is more unusual and rare than normal domesticated pets** like cats or dogs.
- These are those **species which are not usually native to an area** and are introduced to an area by humans.

Why in News:

- The Delhi High Court April 15, 2021 issued an order directing the Centre to take a decision on framing rules to confer protection for exotic animals that are currently not under the purview of the Wildlife (Protection) Act, 1972.
- The animal in focus was a Hippo which was rescued from a circus in Uttar Pradesh.
- Illegally traded exotic animals are confiscated under **Section 111** of the **Customs Act, 1962** which is read with the provision of the Convention on International Trade in Endangered Species and the Foreign Trade Policy (Import-Export Policy) of India.
- **Sections 48 and 49** of the **Wildlife Protection Act, 1972** prohibit trade or commerce in wild animals, animal articles or trophies.

4.8 Brazilian Amazon rainforest now a net carbon emitter:

- The Brazilian Amazon released nearly 20% more carbon dioxide into the atmosphere over the past decade than it absorbed, according to a startling report.
- Humanity can no longer depend on the world's largest tropical forest to help absorb manmade carbon pollution.
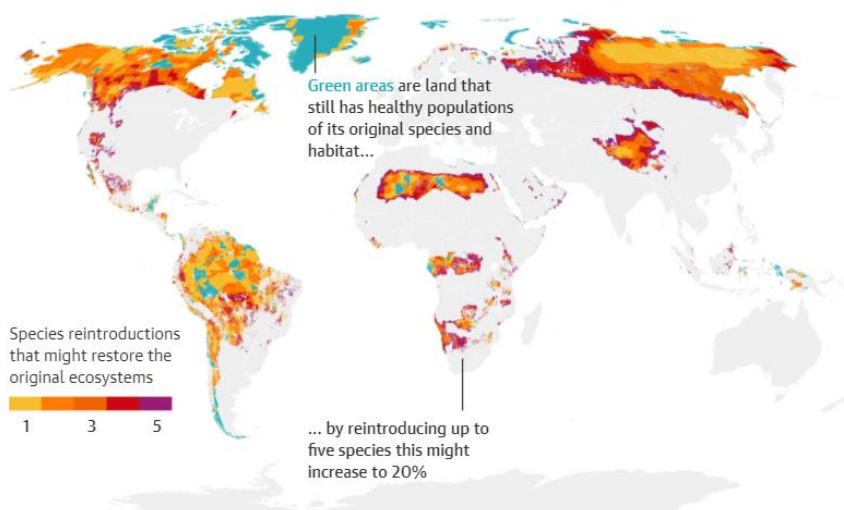

- From 2010 through 2019, Brazil's Amazon basin gave off 16.6bn tonnes of CO_2, while drawing down only 13.9bn tonnes, researchers reported on 29th April,2021 in the journal Nature Climate Change.

- The study looked at the volume of CO2 absorbed and stored as the forest grows, against the amounts released back into the atmosphere as it has been burned down or destroyed.
- The study also showed that deforestation – through fires and clear-cutting – increased nearly four-fold in 2019 compared with either of the two previous years, from about 1m hectares (2.5m acres) to 3.9m hectares (9.6m acres).
- Using new methods of analysing satellite data developed at the University of Oklahoma, the international team of researchers showed for the first time that degraded forests were a more significant source of planet-warming CO2 emissions that outright deforestation.
- Over the same 10-year period, degradation – caused by fragmentation, selective cutting, or fires that damage but do not destroy trees – caused three times more emissions than outright destruction of forests.
- The data examined in the study only covers Brazil, which holds about 60% of the Amazonian rainforest.

4.9 Just 3% of world's ecosystems remain intact-study shows:

- Just 3% of the world's land remains ecologically intact with healthy populations of all its original animals and undisturbed habitat, a study suggests.
- These fragments of wilderness undamaged by human activities are mainly in parts of the Amazon and Congo tropical forests, east Siberian and northern Canadian forests and tundra, and the Sahara.
- Invasive alien species including cats, foxes, rabbits, goats and camels have had a major impact on native species in Australia, with the study finding no intact areas left.

Just 3% of the planet remains ecologically intact

Green areas are land that still has healthy populations of its original species and habitat…

Species reintroductions that might restore the original ecosystems

1   3   5

… by reintroducing up to five species this might increase to 20%

- The researchers suggest reintroducing a small number of important species to some damaged areas, such as elephants or wolves – a move that could restore up to 20% of the world's land to ecological intactness.

- The new assessment combines maps of human damage to habitat with maps showing where animals have disappeared from their original ranges or are too few in number to maintain a healthy ecosystem.
- The research, published in the journal Frontiers in Forests and Global Change, used maps of the ranges of 7,000 species in 1,500 and today from the International Union for Conservation of Nature's Red List.
- Most of the data was for mammals, but it also included some birds, fish, plants, reptiles and amphibians. Many of the intact areas identified were in territories managed by indigenous communities. The analysis did not include Antarctica.

4.10 World will lose 10% of mountain glacier ice by 2050:

- A tenth of the world's mountain glacier ice will have melted by the middle of this century even if humanity meets the goals of the Paris climate agreement.
- The loss is equivalent to more than 13,200 cubic kilometres of water – enough to fill Lake Superior,with knock-on effects on highly populated river deltas, wildlife habitats and sea levels.
- Scientists said the overwhelming bulk of this melt-off, which does not include Greenland or Antarctica, is unavoidable because it has been locked in by the global heating caused by humans in recent years.

- Lower mountain ranges, such as *the European Alps or the Pyrenees*, are expected to be among the worst affected. In *Switzerland and Italy*, there are already cases of famous glaciers retreating rapidly or melting completely
- The study looked at *100 computer models* developed by various institutions and projected various possible behaviours of the planet's *200,000 mountain glaciers.*
- Aggressive emissions cuts would barely slow this. The difference between the best and worst-case scenarios was less than 20%. The remaining 80% is already locked in due to previous emissions.

- That contrasts with projections for the second half of the century, when the decisions taken now will make a huge difference. In a low-emissions scenario, current glacier mass is projected to diminish by about 18% by 2100, which would be a slowdown. By contrast, in a high-emissions scenario, the loss would accelerate to reach 36%.

Affects of Glacier melting:

1. Depending on how quickly emissions can be cut, the extra runoff is likely to add 79-159mm to sea levels by 2100.

2. At a local and regional level, it can also reduce the stability of river systems. On a seasonal level, Alpine glaciers help to regulate water supply by storing precipitation in winter and releasing it in summer.

3. Previous studies suggest 1.9 billion people are at risk of mountain water shortages, most of them in China and India.

About Glacier:

- A glacier is a huge mass of ice that moves slowly over land. The term "glacier" comes from the French word *glace* (glah-SAY), which means ice. Glaciers are often called "rivers of ice."

- Glaciers fall into two groups: alpine glaciers and ice sheets.

Alpine glaciers:

- Alpine glaciers form on mountainsides and move downward through valleys. Sometimes, alpine glaciers create or deepen valleys by pushing dirt, soil, and other materials out of their way.

- Alpine glaciers are also called valley glaciers or mountain glaciers.

- Alpine glaciers are found in high mountains of every continent except Australia (although there are many in New Zealand).

- The Gorner Glacier in Switzerland and the Furtwangler Glacier in Tanzania are both typical alpine glaciers.

Ice sheets:

- Ice sheets, unlike alpine glaciers, are not limited to mountainous areas. They form broad domes and spread out from their centers in all directions.
- As ice sheets spread, they cover everything around them with a thick blanket of ice, including valleys, plains, and even entire mountains.

- The largest ice sheets, called continental glaciers, spread over vast areas. Today, continental glaciers cover most of Antarctica and the island of Greenland.

5 SCIENCE & TECHNOLOGY

5.1 WR Stars:

- Indian astronomers have tracked a rare supernova explosion and traced it to one of the hottest kind of stars called Wolf–Rayet *stars or WR stars.*

What are WR stars?

- The rare Wolf–Rayet stars are highly luminous objects a thousand times that of the Sun and have intrigued astronomers for long. They are massive stars and strip their outer hydrogen envelope which is associated with the fusion of Helium and other elements in the massive core.

- Tracking of certain types of massive luminous supernovae explosion can help probe these stars that remain an enigma for scientists.

- A team of astronomers from **Aryabhatta Research Institute of Observational Sciences** (ARIES), Nainital an autonomous institute under the Department of Science & Technology, Govt. of India with international collaborators have conducted the optical monitoring of one such stripped-envelope supernova called SN 2015dj hosted in the galaxy NGC 7371 which was spotted in 2015.

- They calculated the mass of the star that collapsed to form the supernovae as well as the geometry of its ejection. This work has been recently published in *'The Astrophysical Journa'..*

- The scientists also found that the original star was a combination of two stars – one of them is a massive WR star and another is a star much less in mass than the Sun.

What are Supernovae?

- Supernovae (SNe) are highly energetic explosions in the Universe releasing an enormous amount of energy. Long-term monitoring of these transients opens the door to understand the nature of the exploding star as well as the explosion properties. It can also help enumerate the number of massive stars.

5.2 World Malaria Day:

- World Malaria Day is observed on **25th April every year.**

- The 2021 theme is "Reaching the Zero Malaria target".

- The WHO has also identified 25 countries with the potential to eradicate malaria by 2025 under its **'E-2025 Initiative'.**

E-2025 Initiative:

- WHO has identified a new group of 25 countries that have the potential to stamp out malaria within a 5-year timeline.

- The E-2025 countries will receive technical and on-the-ground support by WHO and its partners. In return, they are expected to audit their elimination programmes annually, participate in elimination forums, conduct surveillance assessments, and share malaria case data periodically.

About Malaria:

- Malaria is a vector borne disease predominantly found in tropical and sub-tropical areas. The pathogen here is the Plasmodium parasite.

- It is spread by an infected female anopheles mosquito. The parasites multiply in the liver cells and then affect the Red Blood Cells.

- There are five parasite species that affect humans and Plasmodium Falciparum Plasmodium Vivax pose the greatest threat.

Indian initiatives in dealing with Malaria:

- In 2017, India launched its 5-year **National Strategic Plan for Malaria Elimination** that shifted focus from Malaria control to elimination and provided a roadmap to end malaria in 571 districts out of India's 678 districts by 2022.

- Indian Council of Medical Research (ICMR) has recently established **'Malaria Elimination Research Alliance-India (MERA-India)** which is a conglomeration of partners working on malaria control.

5.3 Malaria vaccine (R21/Matrix-M):

- **A malaria vaccine(R21/Matrix-M) has proved to be 77% effective in early trials and could be a major breakthrough against the disease, says the University of Oxford team behind it.**

- Malaria kills more than 400,000 people a year, mostly children in sub-Saharan Africa.

- Malaria is a life-threatening disease caused by parasites that are transmitted to people through mosquito bites. Although preventable and curable, the World Health Organization estimates there were 229 million cases worldwide in 2019 and 409,000 deaths.

- The illness starts with symptoms such as fever, headaches and chills and, without treatment, can progress quickly to severe illness and often death.

- Study author Adrian Hill, director of the Jenner Institute and professor of vaccinology at the University of Oxford, said he believed the vaccine was the first to reach the World Health Organization's goal of at least 75% efficacy.
- The most effective malaria vaccine to date had only shown 55% efficacy in trials on African children.

Why is it hard to make a malaria vaccine?

- A malaria vaccine has taken much longer to come to fruition because there are thousands of genes in malaria compared to around a dozen in coronavirus, and a very high immune response is needed to fight off the disease.


Indian connection:

- The Serum Institute of India, which has manufactured the vaccine, says it is confident of delivering more than 200 million doses of the vaccine as soon as it is approved by regulators.
- Biotechnology companyNovavax provided the adjuvant for the vaccine, an ingredient which is used to create a stronger immune response.

5.4 *VINCOV-19:*

- It is a novel therapeutic antibody engineered product developed by University of Hyderabad, CCMB and VinsBioproducts Ltd.
- It has been approved by Drugs Controller General of India(DGCI) for clinical trials to test against Covid-19.
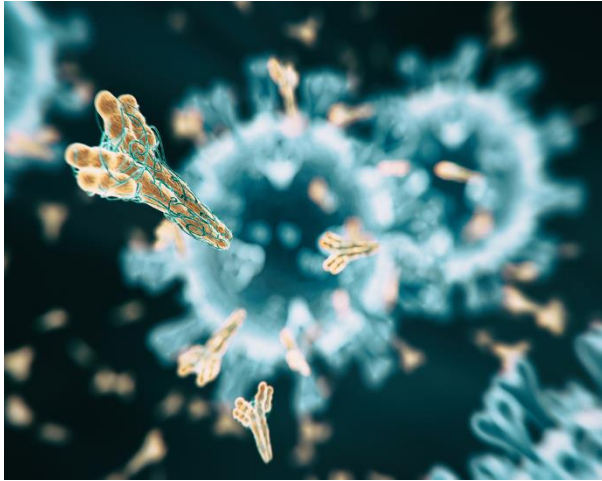
- The antibody has been produced by immunisation of horse with inactive SARS-CoV-2 virus. The horse develops antibodies which are purified and further processed to generate highly pure antibody fragment-based product- Fab2.
- Pre-clinical trails for VINCOV-19 which began in October last year,werehiglysuccessful,showing potent virus neutralising capability.

5.5 Study of Type Ia supernovae:

- Researchers at Indian Institute of Astrophysics have studied a type Ia supernovae called SN 2017hpa which will enhance our understanding of the underlying mechanism of such explosions. These explosions are also a key measure of cosmological distances.

What is Type Ia supernovae?

- Type Ia supernovae are the result of explosions of white dwarfs that exceed their mass beyond the Chandrasekhar limit through accretion of matter. Their homogeneous nature makes them extremely good standardizable candles to measure cosmological distances.
- The findings of the study have been published recently in the journal '*Monthly Notices of the Royal Astronomical Society (MNRAS)*'.

5.6 Python Air-Air Missile:

- Tejas, India's indigenous Light Combat Aircraft, added the 5th generation Python-5 Air-to-Air Missile (AAM) in its air-to-air weapons capability on April 27, 2021.

- Trials were also aimed to validate enhanced capability of already integrated Derby Beyond Visual Range (BVR) AAM on Tejas.

- The test firing at Goa completed a series of missile trials to validate its performance under extremely challenging scenarios.

- Derby missile achieved direct hit on a high-speed manoeuvring aerial target and the Python missiles also achieved 100% hits, thereby validating their complete capability. The trials met all their planned objectives.

About Python missile:

- Python-5 is a fifth generation air-to-air missile (AAM) manufactured by Rafael Advanced Defense Systems.

- The missile can engage enemy aircraft from very short ranges and near beyond visual range.

- Python-5 is the most accurate and reliable AAM of the Israeli Air Force and one of the most sophisticated guided missiles in the world.

- Python-5 is a dual use missile suitable for air-to-air and surface-to-air missions.

- Python-5 can be integrated with wide range of aircraft, including F-5E/F Tiger-II, F-15 Eagle, F-16I Fighting Falcon, Dassault Mirage F-1C, Mirage 5, Mirage 2000, IAI Kfir, Sea Harrier, HAL Tejas and F-35 Lightning II.

5.7 NavIC — Opportunities for the Telecom Industry:

- National Telecommunications Institute for Policy Research, Innovation and Training (NTIPRIT), the apex training institute of Department of Telecommunications, Government of India conducted a

webinar on April 28, 2021 on the topic "NavIC — Opportunities for the Telecom Industry" in collaboration with ISRO and Telecom Industry.

● Sh. R Umamaheswaran, Scientific Secretary, ISRO briefed about the NaviC system and informed that it has higher accuracy than the peer systems. He further informed that there are plans to make NavIC available on L-1 band in addition to the presently used L-5 band. He felt that the NavIC system should be made mandatory for mobile phones released in Indian markets to adopt.

About NaviC:

● NavIC (Navigation with Indian Constellation) is an autonomous regional satellite navigation system established and maintained by ISRO. It covers India and a region extending up to 1 ,500 km beyond Indian mainland (primary coverage area).

● It provides position accuracy better than 20 m (20) and timing accuracy better than 50 ns (20). The actual measurements demonstrate accuracy better than 5 m and 20 ns respectively.

● NavIC based applications are being used in various civilian sectors, including, transport, map applications, and timekeeping.

● Today major mobile chipset manufacturers like Qualcomm, MediaTek and Broadcom already support NavIC across various chipset platforms. A few mobile phone OEMs have also released handsets which can be enabled to receive NavIC through Over the Air firmware   update.

● Some examples for NavIC enabled mobile phones include the Redmi Note 9 series from Xiaomi, the Realme 6 series, the OnePlus Nord, etc.

● NavIC is an indigenous positioning system that is under Indian control. There is no risk of the service being withdrawn or denied in a given situation.

About NTIPRIT:

● National Telecommunications Institute for Policy Research Innovation and Training (NTIPRIT) is the apex training institute of Department of Telecommunications involved in conduction of induction Training for probationary officers of Indian Telecommunication Service Group — A (ITS Group A) recruited through All India based Engineering Services Examination conducted by UPSC.

● Apart from Induction Training, NTIPRIT also conducts various In-Service Trainings, Management Development Programmes, Regional and International Trainings, Capacity Building workshops for Officers of Government of India in various aspects of Information and Communication Technology Administration in India.

5.8 Ct value:Covid-19 test

● The ICMR(Indian Council of Medical Research) has decided a single Ct value cut-off for determining whether a patient is positive for Covid-19.

● Ct is a value that emerges during RT-PCT tests. All patients with a **Ct value** less than **35** may be considered **as positive** while those with **a Ct value** above **35 may be** considered **as negative.**

Ct Value:

● **Ct** is short for **'Cycle Threshold'.**

● The Ct value '**refers to the number of cycles after which the virus can be detected'.**

● If a higher number of cycles is required, it implies that the virus went undetected when the number of cycles was lower.

● The lower the Ct value, the higher the viral load-because the virus has been spotted after fewer cycles.

● It has been found that the time since the onset of symptoms has a stronger relationship with Ct values as compared to the severity of the disease.

Viral Load:

● It refers to the amount of genetic material, commonly RNA, of a virus present in an infected person's blood.

● This is expressed as the total number of viral particles present in each millilitre of blood.

● A higher viral load in the blood means that the virus is replicating and the infection is progressing.

● An infected person with a high viral load is more likely to shed more virus particles, in the process known as "viral shedding".

5.9 Advanced Chaff Technology:

● Defence Research and Development Organisation (DRDO) has developed an Advanced Chaff Technology to safeguard the naval ships against enemy missile attack.

● Defence Laboratory Jodhpur (DLJ), a DRDO laboratory, has indigenously developed three variants of this critical technology namely,

1.Short Range Chaff Rocket (SRCR)

2.Medium Range Chaff Rocket (MRCR)

3.Long Range Chaff Rocket (LRCR)

● The successful development of Advanced Chaff Technology by DLJ is another step towards Atmanirbhar Bharat.

● Recently, Indian Navy conducted trials of all three variants in the Arabian Sea on Indian Naval Ship and found the performance satisfactory.

About Chaff:

● Chaff is a passive expendable electronic countermeasure technology used worldwide to protect naval ships from enemy's radar and Radio Frequency (RF) missile seekers.

● The importance of this development lies in the fact that very less quantity of chaff material deployed in the air acts as decoy to deflect enemy's missiles for safety of the ships.

5.10 B.1.617-Double Mutant:

● The 'Double Mutant' virus that is having a bearing on the spread of the pandemic in India, has been formally classified as **B.1.617**.

● Earlier Genome sequencing of a section of virus samples by the **Indian SARS-CoV-2 Consortium on Genomics (INSACOG)**, revealed the presence of two mutations, **E484Q and L452R**.

● Note: **Mutation** is an alteration in the genetic material (the genome) of a cell of a living organism or of a virus that is more or less permanent and that can be transmitted to the cell's or the virus's descendants.

● Though these mutations have individually been found in several countries, the **presence of both these mutations together** have been first found in coronavirus genomes from India.

*It is yet to be classified as **'Variant of Concern'**.

● Till now only three global 'Variants of Concern' have been identified: the UK Variant **(B.1.1.7)**, **the South African (B.1.351) and the Brazilian (P.1) lineage**.

● According to INSACOG, there is also a **third significant mutation, P614R** other than the two mutations (E484Q and L452R).

- All three concerning **mutations are on the spike protein**. The spike protein is the part of the virus that it uses to penetrate human cells.
- Virus' spike protein may increase the risks and allow the virus to escape the immune system.
- **L452R** could even make the coronavirus resistant to T cells, that is the class of cells necessary to target and destroy virus-infected cells.
- T cells are different from antibodies that are useful in blocking coronavirus particles and preventing it from proliferating.

5.11 HGCO19: novel mRNA-based COVID 19 Vaccine candidate:

- The Department of Biotechnology (DBT), Ministry of Science & Technology has announced that it has approved additional funding towards clinical studies of India's 'first of its kind' mRNA-based COVID-19 vaccine - HGCO19, developed by Pune-based biotechnology company Gennova Biopharmaceuticals Ltd.
- This funding has been awarded under the 'Mission COVID Suraksha'.

Mission CovidSuraksha:

- Mission CovidSuraksha is India's targeted effort to enable the development of indigenous, affordable and accessible vaccines for the country.
- The Mission with its end-to-end focus from preclinical development through clinical development and manufacturing and regulatory facilitation for deployment consolidate all available and funded resources towards accelerated product development.
- It is led by the Department of Biotechnology and implemented by a dedicated Mission Implementation Unit at **Biotechnology Industry Research Assistance Council (BIRAC)**

About mRNA:

- mRNA vaccines are considered safe as mRNA is non-infectious, non-integrating in nature, and degraded by standard cellular mechanisms.
- They are highly efficacious because of their inherent capability of being translatable into the protein structure inside the cell cytoplasm.
- Additionally, mRNA vaccines are fully synthetic and do not require a host for growth, e.g., eggs or bacteria.
- Therefore, they can be quickly manufactured inexpensively under cGMP conditions to ensure their "availability" and "accessibility" for mass vaccination on a sustainable basis.

5.12 Muon g-2 Experiment:

- Recent findings from the g-2 experiment have indicated the existence of particles which are not included in the standard model.

- The experiment calculated precisely the magnetic dipole moment(g factor) of the Muon. The experimental value of g indicates the presence of unknown particles.
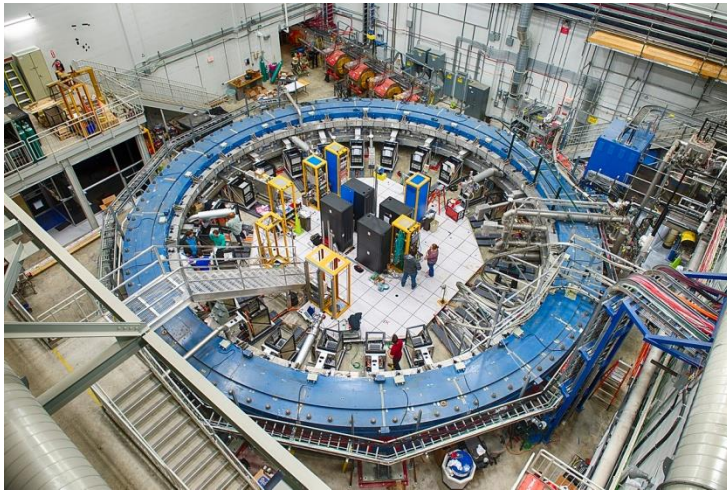
About Muon:

- Muon is also called the 'fat electron', it is 207 times heavier than electron. Muons are highly unstable and difficult to observe.
- Muon acts like a small magnet, and in the presence of magnetic field it starts wobbling. The 'g' refers to the value of the magnet's strength caused by its intrinsic spin, which is slightly larger than two.
- By comparing the theoretical(from standard model) and experimental value of 'g' from Brookhaven and Fermilab,scientists have concluded that there is a mysterious interaction between muons and magnetic field- interactions that involve new particles or forces.

About Standard Model:

- The Standard Model is a rigorous theory that predicts the behaviour of the building blocks of the universe. It lays out the rules for six types of quarks, six leptons, the Higgs boson, three fundamental forces, and how the subatomic particles behave under the influence of electromagnetic forces.

5.13 NASA's Ingenuity Mars Helicopter:

- NASA's miniature **robot helicopter Ingenuity** performed a successful takeoff and landing on **Mars.** It was the **first powered, controlled flight on another planet.**

About Ingenuity:

● Ingenuity is the **first helicopter to fly on Mars.**

● It was carried by NASA's Rover called Perseverance that was launched in July 2020.

● Ingenuity is able to fly using counter-rotating blades that spin at about 2,400 rpm (Rotations Per Minute).The high RPM is to counter the thin atmosphere on Mars.

● It has a **wireless communication system,** and is equipped with computers, navigation sensors, and two cameras.

● It is **solar-powered,** able to charge on its own.

NASA's Perseverance Rover:

● Perseverance landed at the **Jezero Crater (an ancient river delta that has rocks and minerals that could only form in water)** of Mars in February 2021.

● It will remain on the Red Planet for about two years and look for **finding past signs of life.**

● The rover is designed to study signs of **ancient life, collect samples that might be sent back to Earth during future missions** and test new technology that might benefit future robotic and human missions to the planet.

5.14 Human-Monkey Chimera:

● Scientists at **Salk Institute for Biological Studies in the US** have successfully grown monkey embryos containing human cells for the first time.

● The research team injected monkey embryos with human stem cells and watched them develop. They observed human and monkey cells divide and grow together in a dish, with at least 3 embryos surviving to 19 days after fertilization.

About Chimera:

- A **chimera** is essentially a single organism that's made up of cells from two or more "individuals"—that is, it contains two sets of DNA.

- Artificial Chimeras could provide better models in which to test drugs, and be used to grow human organs for transplants. The organs could be genetically matched by taking the recipient's cells and reprogramming them into stem cells.

- *Human-Pig chimeras and Human-Monkey chimeras have already been experimented upon.*

How were the chimeras developed?

- In the study, researchers fertilized eggs extracted from cynomolgus monkeys (*Macacafascicularis*) and grew them in culture.

- Six days after fertilization, the team injected 132 embryos with human extended pluripotent stem cells, which can grow into a range of cell types inside and outside an embryo.
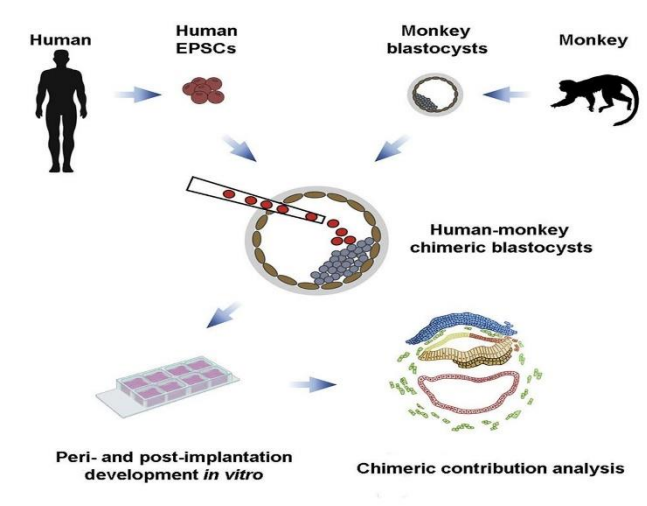
- The embryos each developed unique combinations of human and monkey cells and deteriorated at varying rates: 11 days after fertilization, 91 were alive; this dropped to 12 embryos at day 17 and 3 embryos at day 19.

Human-Human Chimera:

● Chimeras also exist in the natural world. There have been a number of documented human cases.American singer Taylor Muhl discovered she was carrying genetic material from her fraternal twin sister, whose egg had fused with hers in their mother's womb. This explains a large section of darker skin on her torso – it comes from her sister's DNA.

● In 2019, a Japanese stem cell scientist, HiromitsuNakauchi, was given permission to insert human stem cells into mice or rats in an attempt to grow a human pancreas in the animal.

● Countries like USA , Japan , UK have allowed limited research on Chimeras involving human cells.The International Society for Stem Cell Research (ISSCR) is expected to publish revised guidelines for stem-cell research. These will address non-human-primate and human chimaeras.

5.15Crew-2 Mission:

● Four astronauts have been sent to the International Space Station (ISS) from Florida through a collaboration program of **NASA** and **SpaceX**under the Commercial Crew Program.

● The Crew-2 mission is the second of *six crewed missions* NASA and SpaceX will fly as part of the agency's Commercial Crew Program.

● Out of the *four astronauts*, two are from *NASA* and two are from the *Japan Aerospace Exploration Agency (JAXA) and the European Space Agency (ESA).*

- First commercial crew handover between astronauts on the space station as Crew-1 and Crew-2 astronauts will spend about five days together on station before Crew-1 returns to Earth.
- The Falcon 9 rocket used in the Crew-2 mission was used to launch the Crew-1 into orbit five months ago. This marks the first time a previously flown rocket booster is re-used in a crewed launch.

About Commercial Crew Program:

- The main objective of the program is to make access to space easier in terms of its cost to carry the cargo and crew transportation easier.
- NASA also plans to lower its costs by sharing them with commercial partners by building Commercial Orbital Transportation Services (COTS).

What will Crew-2 do at ISS?

- Crew-2 astronauts will join the members of Expedition 65.They will stay aboard the ISS for six months and will conduct science experiments in low-Earth orbit.
- Their central focus will be to continue a series of *Tissue Chips* in Space studies.Tissue Chips are small models of human organs that contain multiple cell types that behave similarly to the human body.
- These chips can speed up the process of identifying safe and effective drugs and vaccines.Scientists will use these tissue chips in space to study diseases that affect specific human organs.
- The main advantage is that experiments in space takes lesser times in comparison to earth.
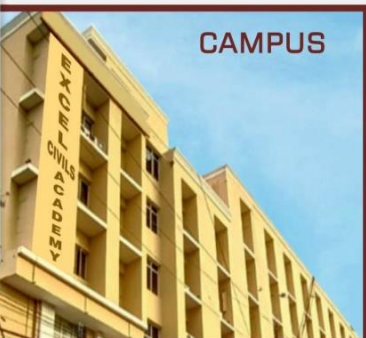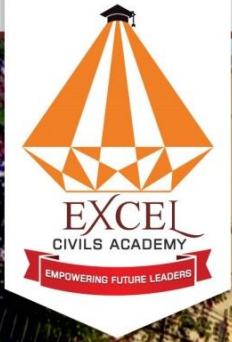
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