EXCEL QUEST

EXCEL CIVILS ACADEMY
EMPOWERING FUTURE LEADERS

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India-UK Free Trade Agreement
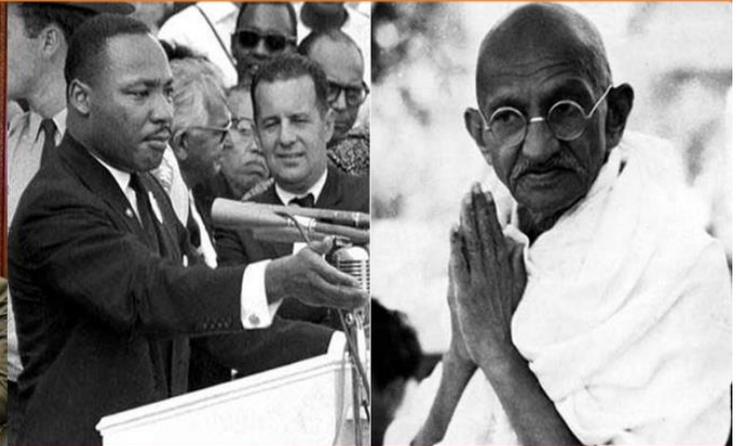
US Congressional Committee passes bill to promote legacy of Mahatma Gandhi

DIVESTMENT DRIVE

COAL INDIA
- Govt's stake: 89.65%
- On the block: 10%, or 63.16 crore shares
- Share price*: Rs 373.85
- Target sum: Rs 23,000 crore

ONGC
- Govt's stake: 68.94%
- On the block: 5%, or 42 crore shares
- Share price*: Rs 445.30
- Target sum: Rs 18,000 crore

NHPC
- Govt's stake: 85.96%
- On the block: 11.36%, or 125.76 crore shares
- Share price*: Rs 22.40
- Target sum: Rs 2,800 crore

Mode: Offer for sale   **Divestment target:** Rs 43,425 cr   *Price as on Sept. 10, 2014

ASADHA POORNIMA
4th JULY 2020
Venue
Ashok Hall, Rashtrapati Bhavan, New Delhi
Mulagandha Kuti Vihara, Sarnath

President of India Shri Ram Nath Kovind has inaugurates Dharma Chakra Day 2020

Dharma Ch
The First

CND UNITED NATIONS COMMISSION ON NARCOTIC DRUGS
POLICYMAKING BODY OF THE UNITED NATIONS SYSTEM WITH PRIME RESPONSIBILITY FOR DRUG-RELATED MATTERS

CND SPECIAL EVENT
commemorating the United Nations International Day against Drug Abuse and Illicit Trafficking
Friday, 26 June 2020
2:00 PM (Vienna Time) VIRTUAL MEETING

WORLD DRUG REPORT 2020

The World Drug Report 2020: UN

Celebrating 74th Independence Day

Director's message

Dear Aspirants,

The much awaited CSE 2019 final results were announced on 4th August 2020 in which 829 successful Candidates were recommended for appointment to IAS, IFS, IPS and Central Services Group 'A' and Group 'B'. A good number of aspirants from both the Telugu States numbering more than 30 have cleared one of the most toughest examinations in the world and ready to enter into various services to contribute their mite in the governance of this great nation. Out of 11 aspirants to whom EXCEL CIVILS ACADEMY provided mentoring for Personality Test, 7 made it to the final list 76th rank - Mallavarapu Surya Teja, 117th rank - Rahul Kumar Reddy Tatimakula, 170th rank - KesarapuPremsagar283rd rank - GorijalaMohana Krishna, 568th rank - Mithun Raja YadavBeri, 690th rank - Daripelli Ramesh and 698th rank - PalaniPhanikiran S. My heartiest congratulations and best wishes to all the successful candidates for a fruitful and professionally satisfying career in service of the people.

5th August 2020 signifies an important and historic moment for the Country with the Prime Minister NarendraModi performing BhoomiPujan and laying a foundation stone for construction of Ram Mandir in Ayodhya thereby bringing down curtains on almost five centuries old dispute and litigation. The Babri Masjid-Ram Janmabhoomi dispute has its genesis in the mosque built by Babar in 1528. The Hindus have always been claiming that the Mosque was built atop the ruins of Ram Temple which was also the birth place of lord Rama. It was in 1859, the British Officials erected a fence to separate the places of worships, allowing the inner court to be used by the Muslims and the outer court by Hindus. A suit was filed in the Faizabad District Court in the year 1885 by MahantRaghubir Das seeking permission to build a Temple on Ram Chabootra but the same was rejected after an

year. Since then, numerous claims and counter claims were made by both the communities in various courts of law seeking possession of the property. 6th December proved to be a turning point of the entire dispute when Babri mosque was razed to the ground by the 'KarSewaks' which triggered communal riots between Hindus and Muslims all over the country in which more than 2000 people died. The litigation continued throughout in various Courts and after exhausting all avenues of reaching an amicable solution to the dispute through mediation, a five-judge constitution bench headed by Chief Justice RanjanGogoi delivered a judgment on 9th Nov, 2019 ordering setting up of a trust to pave the way for construction of a temple at Ayodhya and also ordered allotting 5 acres of land for construction of a Mosque.

Ushering in major reforms in Education, the Union Cabinet approved and announced a New Education Policy on 29th July 2020 with an aim to overhaul the Country's education system. The NEP 2020 aims at making "India a global knowledge superpower". An NEP is a comprehensive framework to guide the development of education in the Country. The need for a policy was first felt in 1964 and the first NEP came in 1968 and the second in 1986. The Second NEP was revised in 1992 and the third NEP has been just announced by the present Government.

The NEP proposes sweeping changes including opening up Indian Higher education to foreign universities, dismantling of the UGC and the All India Council for Technical Education (AICTE), introduction of a four-year multidisciplinary undergraduate programme with multiple exit options and discontinuation of the M Phil programme. In school education, the policy focuses on overhauling the curriculum, "easier" Board exams, a reduction in the syllabus to retain "core essentials" and thrust on "experiential learning and critical thinking". In a significant shift from the 1986 policy which envisaged a 10+2 structure of school education, the new NEP pitches for a "5+3+3+4" design corresponding to the age groups 3-8 years (foundation stage), 8-11 (preparatory), 11-14 (middle) and 14-18 (secondary). This brings early childhood education under the ambit of formal schooling. The mid-day meal programme will be extended to pre-school children and students until Class 5 should be taught in their mother tongue or regional language. The policy also proposes phasing out of all institutions offering single streams and that all Universities and Colleges must aim to become multidisciplinary by 2040. The NEP only provides a broad

direction and is not mandatory to follow. Since education is in the Concurrent list, the proposed reforms can only be implemented collaboratively the Centre and the States that too over a period of time and subject to availability of adequate funds which infact adversely affected the 1968 NEP.

COVID-19 continues to be a serious concern all over the world with US and Brazil leading followed by India as the third worst-affected by the Pandemic and has been reporting a higher daily surge in caseload for the past 12 days. India crossed 25.89 lakh infections with over 49,000 Covid-linked deaths. However, with sharply falling CASE FATALITY RATE below 2%, India has one of the lowest #COVID19 mortality globally, as the Ministry of Health, Govt of India. Globally, the scientists are leaving no stone unturned for discovery of vaccine and are at different stages of testing. Russia already announced discovery of vaccine and the Indian PM during his address to the nation on the occasion of 74th Independence Day on 15th August, said that three coronavirus vaccines are at different stages of testing in India and the government has a plan to ensure that a vaccine, when approved, reaches every Indian.

On behalf of EXCEL CIVILS ACADEMY, I wish you all a very happy Eid al-Adha (1st August), Raksha Bandhan (3rd August), Janmashtami (11 August), 74th Independence Day (15th August).

With the CS Prelims exams date (4th October 2020) fast approaching, I am sure, all of you are fully geared up to face the examination boldly with confidence. The key to success is consistency, determination and hardwork coupled with proper time management and solving as many past question papers as possible. We, at EXCEL CIVILS ACADEMY, are always available to you for any kind of support and guidance.

Best wishes.

K. Rajendra Kumar IPS (Retd.)
Director.

Table of Content

1. NATIONAL

1.1 Maharashtra launches Project Platina, World's Largest Plasma Therapy Trial

- **Maharashtra** Chief Minister **Uddhav Thackeray** launched the world's largest plasma therapy trials for the **COVID-19** "**Project Platina**".
- The project is aimed at creating robust data for treating the disease for which no specific line of **treatment** exists.

1.2 STARS Programme: World Bank

- Recently, the **World Bank** has approved the **Strengthening Teaching-Learning and Results for States (STARS) Programme.**
- It will improve the **quality and governance** of **school education** in **six Indian states** of Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha and Rajasthan through the Samagra Shiksha.

1.3 Covaxin approved for Human Clinical Trials

- **The Central Drugs Standard Control Organisation (CDSCO)** has granted approval to **Bharat Biotech** to conduct human clinical trials for **'Covaxin',** making it the first indigenous **Covid-19 vaccine** candidate to receive this approval.
- Covaxin has been developed by the company Bharat Biotech in collaboration with the **Indian Council of Medical Research (ICMR)**. It is an inactivated vaccine manufactured in the company's **Bio-Safety Level 3** (BSL-3) High Containment facility located in Hyderabad (Telangana).
- The permission was granted after the company submitted results from pre-clinical studies of the vaccine that demonstrated its safety and immune response. Phase I and II clinical trials will start across India in July 2020.

1.4 Sanskritik Sadbhav Mandap: PMJVK

- Recently, the **Minister of Minority Affairs** has laid the foundation stone for '**Sanskritik Sadbhav Mandap**' (multi-purpose community center) at **Rampur in Uttar Pradesh.**
- This community center will be utilized for various **socio-economic-cultural activities**, skill development training, coaching, different sports activities and relief activities during disasters such as Covid-19.
- It is being constructed under the P**radhan Mantri Jan Vikas Karyakram (PMJVK).**

1.5 National Doctors Day is observed on 1 July

- **National Doctors' Day** is celebrated annually on **1 July**. The day is observed for honoring the physician and former chief minister of West Bengal, **Dr.Bidhan Chandra Roy**. It is celebrated to raise awareness about the importance of doctors and their vital role in our day-to-day lives.

Dr.Bidhan Chandra Roy:

- Dr.Bidhan was an eminent physician and educationist. He was also a renowned freedom fighter. He joined Mahatma Gandhi during the **Civil Disobedience Movement (CDM)** and later he became Indian National Congress leader.
- He was elected twice as West Bengal's Chief Minister and remained in office for up to 14 years until his death in 1962. He was an Alumnus of the University of Calcutta. He played a key role in the formation of the **Indian Medical Association and Medical Council of India.**

History:

- Doctors' Day in India was introduced in **1991** by the **Government of India**. The aim was to pay honour and respect Dr.Bidhan Chandra Roy. The day was chosen as it is the birth and death anniversary of Dr.Bidhan.
- He was born on **1st July 1882** and died on the same date, that is, **1st July 1962**. A year before his death, Dr.Bidhan was honoured with Bharat Ratna on **February 4, 1961**, which is considered to be the highest civilian award in India.
- India has shown extraordinary improvements in the medical field and July 1 pays a tribute to all the doctors who have made unremitting efforts to achieve this goal regardless of the odds.

1.6 Amendments in the Indian Stamp Act come into effect from 1 July 2020

- The **Amendments in the Indian Stamp Act, 1899** brought through **Finance Act 2019and Rules** made thereunder will come into effect from **1 July 2020** as per the notifications dated **30 March 2020.**
- The amendment will facilitate ease of doing business and to bring in the uniformity of the stamp duty on securities across States.

Highlights:

- The amendment will build a pan-India securities market after due deliberations and consultations with the States, through requisite amendments in the **Indian Stamp Act, 1899.**
- The rules made thereunder has created the legal and institutional mechanism to enable states to collect stamp duty on securities market instruments at one place by one agency on one Instrument.

Salient Features:

- The amendments will provide the following structural reforms:
- The stamp-duty on transfer, sale, and issue of securities will be collected on behalf of the State Government by the collecting agents. The agents will then transfer the collected stamp-duty in the account of the concerned State Government.

- The amendment will prevent multiple incidences of taxation, no stamp duty will be collected by the States on any secondary record of transaction associated with a transaction on which the stock exchange/depository has been authorized to collect the stamp duty.

- Stamp duty is payable by both seller and buyer in the new system it is levied only on one side.

- The collecting agents will be the Stock Exchanges or authorized Clearing Corporations and the Depositories.

- All the exchange-based secondary market transactions in securities, Stock Exchanges will collect the stamp duty and for off-market transactions and the initial issue of securities happening in Demat form, and the depositories will collect the stamp duty.

1.7 RRI introduces QKD SIM toolkit

- **Researchers** from **Raman Research Institute (RRI),** an autonomous institute of the **Department of Science & Technology (DST),** has launched **Quantum Key Distribution or QKD.**

- The qkdSim simulation toolkit aims to ensure safety in secure quantum communication platforms.

Highlights:

- qkdSim is a unique simulation toolkit for end-to-end QKD simulation which is based on modular principles that allow it to be grown to different classes of protocols using various underpinning technologies.

- The simulation toolkit will satisfy the recent advisories by the Ministry of Home Affairs to ensure online communication via secure platforms. This comes as due to the increasing need for measures to ensure security in the virtual world as the COVID-19 confines most day to day activities to the digital space.

- QKD will ensure the security of the key transfer process that lies in using the laws of quantum physics.

- RRI team plans to expand the current scope of qkdSim to include entanglement based QKD protocols and experimental comparisons for the same. It will lead to a whole new software that will be highly beneficial to the experimental secure quantum communication community.

- This software will be a foundation for the National Mission on Quantum Technologies and Applications developments in the country.

1.8 Central Government extended term of Attorney General (AG) by one year

- The **central government** has extended the term of **K.K. Venugopal as Attorney General (AG) for one year.**

- Venugopal was appointed the **15th AG of India** in **2017**. He succeeded **Mukul Rohatgi** who was AG from **2014-2017.**

Key Points

- The Attorney General (AG) of India is a part of the Union Executive. AG is the highest law officer in the country.
- Article 76 of the Constitution provides for the office of AG of India.

BACKGROUND:

Appointment and Eligibility:

- AG is appointed by the President on the advice of the government.
- S/he must be a person who is qualified to be appointed a judge of the Supreme Court, i.e. s/he must be a citizen of India and must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the President.

Term of the Office: Not fixed by the Constitution

- **Removal:** Procedures and grounds for the removal of AG are not stated in the Constitution. S/he holds office during the pleasure of the President (may be removed by the President at any time).

Duties and Functions:

- To give advice to the Government of India (GoI) upon such legal matters, which are referred to her/him by the President.
- To perform such other duties of a legal character that are assigned to her/him by the President.
- To appear on behalf of the GoI in all cases in the Supreme Court or in any case in any High Court in which the GoI is concerned.
- To represent the GoI in any reference made by the President to the Supreme Court under Article 143 (Power of the President to consult the Supreme Court) of the Constitution.
- To discharge the functions conferred on her/him by the Constitution or any other law.

Rights and Limitations:

- S/he has the right to speak and to take part in the proceedings of both the Houses of Parliament or their joint sitting and any committee of the Parliament of which s/he may be named a member, but without a right to vote.
- S/he enjoys all the privileges and immunities that are available to a member of Parliament.
- S/he does not fall in the category of government servants. S/he is not debarred from private legal practice.
- However, s/he should not advise or hold a brief against the GoI.
- Solicitor General of India and Additional Solicitor General of India assist the AG in fulfillment of the official responsibilities.
- Corresponding Office in the States: Advocate General (Article 165).

1.9 Committee on Criminal Law Reform

- Recently, the **Ministry of Home Affairs (MHA)** has constituted a national level committee for reform in **Criminal law.**

KeyPoints

Committee for Reform in Criminal Law:

- The committee has been constituted under **Ranbir Singh** and several other members.
- The committee would be gathering opinions online by consulting with experts and collating material for their report to the government.
- The consultation exercise would start on **4th July 2020** and go on for the next three months.
- Background of Criminal Justice System:
- The codification of criminal laws in India was done during the British rule, which more or less remains the same even in the 21st century.
- Lord Thomas Babington Macaulay is said to be the chief architect of codifications of criminal laws in India.
- Criminal law in India is governed by **Indian Penal Code, 1860, Code of Criminal Procedure, 1973, and Indian Evidence Act, 1872, etc.**

Need for Reforms:

- **Colonial Era Laws:** The criminal justice system is a replica of the British colonial jurisprudence, which was designed with the purpose of ruling the nation and not serving the citizens.
- **Ineffectiveness:** The purpose of the criminal justice system was to protect the rights of the innocents and punish the guilty, but nowadays the system has become a tool of harassment of common people.
- **Pendency of Cases:** According to Economic Survey 2018-19, there are about 3.5 crore cases pending in the judicial system, especially in district and subordinate courts, which leads to actualisation of the maxim "Justice delayed is justice denied."
- **Huge Undertrials:** India has one of the world's largest number of undertrial prisoners.
- According to **NCRB -Prison Statistics India (2015),67.2%** of our total prison population comprises undertrial prisoners.
- **Investigation:** Corruption, huge workload and accountability of police is a major hurdle in speedy and transparent delivery of justice.
- **Madhav Menon Committee:** It submitted its report in 2007, suggesting various recommendations on reforms in the CJSI.
- **Malimath Committee Report:** It submitted its report in 2003 on the Criminal Justice System of India (CJSI).

- The Committee had opined that the existing system "weighed in favour of the accused and did not adequately focus on justice to the victims of crime."
- It has provided various recommendations to be made in the CJSI, which were not implemented.

Suggestions for Reforms

- Criminal law is considered to be the most apparent expression of the relationship between a state and its citizens. Therefore, any revision to the CJSI needs to be done while keeping several principles in mind, which are:
- The reason for victimization ought to be given a major thrust in reforming laws to identify the rights of crime victims.
- For Example: Launch of victim and witness protection schemes, use of victim impact statements, increased victim participation in criminal trials, enhanced access of victims to compensation and restitution.
- The construction of new offences and reworking of the existing classification of offences must be guided by the principles of criminal jurisprudence which have substantially altered in the past four decades.
- For Example: Criminal liability could be graded better to assign the degree of punishments. New types of punishments like community service orders, restitution orders, and other aspects of restorative and reformative justice could also be brought in its fold.
- The classification of offences must be done in a manner conducive to management of crimes in the future.
- Many chapters of the IPC are overloaded at several places. The chapters on offences against public servants, contempt of authority, public tranquility, and trespass can be redefined and narrowed.
- Guiding principles need to be developed after sufficient debate before criminalising an act as a crime.
- Unprincipled criminalisation not only leads to the creation of new offences on unscientific grounds, but also arbitrariness in the criminal justice system.
- The discretion of judges in deciding the quantum and nature of sentence differently for crimes of the same nature should be based on principles of judicial precedent.

1.10 Online Education

- Recently, the **Central government** has proposed long-term measures to address social inequities in **online education**, as highlighted by the Covid-19 pandemic.
- The measures include plans to distribute laptops or tablets to **40% of all college and university students** over the next five years and to equip all government schools with **Information and Communication Technology (ICT).**
- Earlier in **April 2020**, the Centre had announced to start the 2020-21 academic year virtually.

Key Points

- **Facilitation of Online Education:**
- Providing **Laptops and Tablets:**
- Providing these devices to **4.06 crore** students (40% of the projected student population) by **2026**, at a total cost of **Rs. 60,900 crore.**
- The Centre and States will share the cost in a **60:40 ratio.**

Installing ICT Facilities:

- The Ministry of Human Resource Development proposes to spend **Rs. 2,306 crore** on developing and translating digital course content and resources over the next five years.
- Different e-learning techniques will be used like **YouTube, Google Classroom, SWAYAM Prabha portal, direct-to-home (DTH), etc.**
- Sanitisation and Quarantine Measures before School Reopenings:
- The measures would include ensuring basic water, sanitation and hygiene (WASH) facilities, safe drinking water, availability of sanitiser, disinfectant, cleaning material and equipment for temperature checking.

Financial Support:

- Under the composite grant for schools, ranging between **Rs. 25,000** for small schools with less than 100 students and **Rs. 1 lakh** for schools with over a thousand students for awareness and community mobilisation to sensitise parents, students and local leaders about pandemics, social distancing and other preventive measures.
- **Rs. 1,000** per teacher to encourage them to function as first-level counsellors, disseminate basic information about Covid-19 and provide digital/online/mobile education.
- **Rs. 1 lakh** per school for sanitisation and quarantine measures in preparation for the safe reopening of schools.
- A proposed budget of **Rs. 55,840 crore** to equip government schools above the upper primary level, with ICT facilities.

1.11 Delhi government launches Paudhe lagao, Paryavaran Bachao

- The **Delhi government** will organize a mega tree plantation drive under the campaign **'Paudhe lagao, Paryavaran Bachao'.** The campaign will be held from **10-26 July 2020**. The information was passed by **Delhi Environment Minister Gopal Rai** on **2 July 2020.**

Highlights:

- The campaign is launched with an aim to reduce air pollution by increasing green cover in the national capital.

- It has been planned that during the campaign, in **17 days, 31 lakhof tree saplings** will be planted under the campaign.

- The campaign will be launched near **ITO** in **National Highway 20 (NH 20).**

- Out of the **31 lakh saplings, 20 lakh saplings** will be of big trees and the remaining **11 lakh saplings** will be of shrubs that will be planted on both sides of the road.

MoD approves purchase of 33 fighter aircraft for IAF, 248 indigenous missiles

- The **Ministry of Defence (MoD)** cleared the purchase of **21 MiG-29 and 12 Sukhoi-30 MKI fighter aircraft** along with **248 indigenous long-range air to air missiles, Astra,** among others on **2 July 2020.**

- The move by the **Ministry** is to boost the Indian armed forces. It was approved by the **Defence Acquisition Council (DAC)** headed by **Defence Minister Rajnath Singh**

Highlights:

- MoD has cleared the purchase of platforms and equipment for the armed forces to the tune of **Rs 38,900 crore.**

- The Ministry also approved the upgrade of the existing 59 MiG-29 aircraft for the Indian Air Force (IAF).

- Out of the **248** indigenous Astra missiles, **200 is for IAF**, and **48 for the Indian Navy.**

- The estimated cost of the procurement is **Rs.2,700 crore.**

- Also, the MiG-29 procurement and upgrade from Russia has been estimated to cost around **Rs.7,418 crore.**

- And, the **Sukhoi-30 MKI** which is to be procured from **Hindustan Aeronautics Limited (HAL)** has been estimated at the cost of **Rs.10,730 crore.**

1.12 Indira Gandhi National Centre for the Arts

- The **Indira Gandhi National Centre for the Arts (IGNCA)** is planning to highlight the work of artists who have been entertaining and boosting the public's morale during the Covid-19 pandemic (referred as silent Covid warriors).

Key Points

- The **Indira Gandhi National Centre for the Arts (IGNCA)** was established in **1987** as an autonomous institution under the **Ministry of Culture**, as a centre for research, academic pursuit and dissemination in the field of the arts.

- The IGNCA has a trust (i.e. Board of Trustees), which meets regularly to give general direction about the Centre's work. The Executive Committee, drawn from among the Trustees, functions under a Chairman.

- It is a research unit under Project Mausam.

- Project **'Mausam'** is a Ministry of Culture project with **Archaeological Survey of India (ASI), New Delhi** as the nodal agency.
- The central themes that hold Project 'Mausam' together are those of cultural routes and maritime landscapes that not only linked different parts of the Indian Ocean littoral, but also connected the coastal centres to their hinterlands.
- A project on design and development of a Vedic Heritage Portal was initiated at IGNCA, under the aegis of the Ministry of Culture, Government of India. The portal aims to communicate messages enshrined in the Vedas.

1.13 Privatisation of Indian Railways

Recently, the **Ministry of Railways** has taken the first step towards privatisation of railways by inviting **Request for Qualifications (RFQ)** to private players for operation of passenger train services.

Key Points

Privatisation Project:

- Under this at least **151** modern trains will be introduced and **109** pairs of routes will be planned out for private train operations.
- Train sets have to be brought by private operators and maintained by them.
- Fares in private trains will be competitive and prices on other modes of transport like airlines, buses have to be kept in mind while fixing the fares
- Private participation in passenger train operations will only be **5%** of the total operations of Railways. **95%** of trains will still be run by Indian Railways.
- The project will bring private sector investment of about **Rs. 30,000 crore.**

Reason Behind Privatisation:

- To develop India's railway infrastructure to provide travel services to all its passengers.
- According to the **2019-20** data, the Railways ferried **8.4 billion (840 crore)** passengers in 2019-20, about five crore passengers could not be accommodated, meaning their wait-listed tickets were dropped.
- During the busy seasons/summer season nearly **13.3%** passengers were not able to get confirmed reservations.
- Induction of modern technology and reduction in transit time and the demand-supply deficit in train tickets.

Benefits:

- Confirmed tickets and faster trains for passengers.
- Trains would run faster and would be safer and provide more facilities.
- Reduction in maintenance cost of train coaches.

- The train coaches now required maintenance after they ran **4,000 km,** but modern coaches would need maintenance after every **40,000 km** or once or twice in **30 days**.
- Reduction in railways loss. Currently, the railways makes losses in passenger services.
- Provide revenue to railways for future operations.
- The private entity will pay the Railways fixed haulage charges, energy charges as per actual consumption and a share in gross revenue determined through the bidding process.
- RFQ had been issued under the Make in India policy. So the coaches would have to be manufactured in India.
- This will create jobs and utilisation of local components in manufacturing.

Issues Involved:

- There is fear that it will lead to increase in fair prices of rail travel and job losses.
- It will harm the interest of marginalised communities (Scheduled Castes, Scheduled Tribes and Other Backward Classes), who get reservation under the government jobs.
- Currently there is no reservation in private sector employment.

1.14 Under-Reporting of Diseases due to Pandemic

According to information on weekly outbreaks available on the website of the **Integrated Disease Surveillance Programme (IDSP),**there have been unusually fewer instances of diseases other than Covid-19 due to the ongoing novel coronavirus pandemic.

The IDSP issues weekly reports on disease outbreaks across the country based on its surveillance network that spans at least **600 districts.**

Integrated Disease Surveillance Programme

- The Integrated Disease Surveillance Programme (IDSP) portal is a one stop portal which has facilities for data entry, view reports, outbreak reporting, data analysis, training modules and resources related to disease surveillance.
- It was launched by the **Ministry of Health and Family Welfare,** in assistance with the **World Bank, in 2004.**

Key Points

Current Scenario:

- The latest weekly report available on the IDSP website from **Week 12 (March 16-22) of 2020** records a mere 6 disease alerts across the country.
- An alert is when a sizable number of cases from a region are reported.
- The six alerts include a case of **Crimean-Congo Hemorrhagic Fever,** three cases of chickenpox and a case each of dengue and food poisoning.
- In **Week 11 of 2020**, there were **28 alerts**, 12 of which were for Covid-19.

- However, after **3rd May 2020**, there is again an increase in reports of other diseases but the latest data suggests that it hasn't completely normalised as compared to previous years

Past Scenario:

- In the same week in **2019**, there were **17 alerts**; in **2018**, there were **28**; and in **2017**, there were **45**.
- However there are no records in **2020** after **week 12,** that is after **March 22.**

Reasons for Under-Reporting:

- Lockdown and the behavioural change due to Covid-19.
- Presence of only testing and treatment for Covid-19 available at government healthcare facilities.
- IDSP faces a manpower crunch in the middle of a pandemic.

1.15 Drug Discovery Hackathon 2020

- Recently, the **government** has launched **Drug Discovery Hackathon 2020 (DDH2020),** a first of its kind national initiative for supporting the drug discovery process.
- The objective is to identify drug candidates against **SARS-CoV-2 (Covid-19)** by in-silico drug discovery.

In-Silico Drug Discovery

- In-Silico is an expression used to mean **"performed on computer or via computer simulation."**
- In-Silico drug discovery process is thus the identification of the drug target molecule by employing bioinformatics tools.
- Drug target molecules generally include **DNA, RNAand proteins such as receptors, enzymes etc.**
- Identification of drug target molecules help in knowing their pharmacological relevance to the disease under investigation.
- Bioinformatics is the application of computational technology (such as Artificial Intelligence/Machine Learning) to handle the rapidly growing repository of information related to molecular biology.

Key Points

- **Joint Initiative:** DDH2020 is a joint initiative of **the Ministry of Human Resource Development (MHRD)**, **All India Council for Technical Education (AICTE)** and the **Council of Scientific and Industrial Research (CSIR)** and supported by partners like **Centre for Development of Advanced Computing (CDAC),MyGov and private players.**
- **Participants:** Researchers/Faculty across the world, students studying in India and abroad.

Functioning:

- It will primarily focus on computational aspects of drug discovery and will have three Tracks.
- **Track-1** will deal with computational modelling for drug design or identifying **'lead'** compounds from existing databases that may have the potential to inhibit SARS-CoV-2.

- **Track-2** will encourage participants to develop new tools and algorithms using data analytics and AI/ML approach for predicting drug-like compounds with minimal toxicity and maximal specificity and selectivity.
- **Track 3** will only deal with novel and out-of-the-box ideas in this field.
- Participants will submit their ideas online after which the CSIR and other labs will work towards executing them.

1.16 Strength of CoM in Madhya Pradesh

- Recently, it has been alleged that the strength of the **Council of Ministers (CoM) in Madhya Pradesh** exceeds the prescribed Constitutional limit.

Key Points

- The recent expansion of the Ministry in **Madhya Pradesh** has increased the **Council of Ministers strength** to **34**, which is more than **15%** of the effective strength of the legislators at **206**.
- The effective strength of the House is calculated by deducting the vacant seats out of the total strength of the House.
- **Article 164 (1A)** of the Constitution prescribed that the total number of Ministers, including the Chief Minister, in the Council of Ministers in a State shall not exceed **15%** of the total number of members of the Legislative Assembly of that State.
- Provided that the number of Ministers, including the Chief Minister in a State shall not be less than twelve.
- This provision was introduced through the **91st Constitution (Amendment) Act, 2003.**
- The **Assembly strength of 228** dropped to **206** in **March 2020**, when 22 rebel Congress MLAs resigned, toppling the then government. Two seats fell vacant earlier owing to deaths.

Council of Ministers in State

- The Council of Ministers in the states is constituted and function in the same way as the Council of Ministers at the Centre.
- **Article 163 (1)** provides that there shall be a Council of Ministers with the Chief Minister as the head to aid and advise the Governor in the exercise of his functions.
- However, the Constitution does not specify the size of the State Council of Ministers or the ranking of ministers. They are determined by the chief minister according to the exigencies of the time and requirements of the situation
- **Article 164 (1)** provides that the Chief Minister shall be appointed by the Governor and the other Ministers shall be appointed by the Governor on the advice of the Chief Minister.

- However, in the states of Chhattisgarh, Jharkhand, Madhya Pradesh and Odisha, there shall be a Minister in charge of tribal welfare who may in addition be in charge of the welfare of the scheduled castes and backward classes or any other work.

- **Article 164 (2)** provides that the Council of Ministers shall be collectively responsible to the State Legislative Assembly.

- **Article 164 (4)** provides that a person can remain as Minister without being a member of the state legislature for a period of six consecutive months.

- **Article 164 (1B)** provides that a member of either House of state legislature who is disqualified on the ground of defection shall also be disqualified to be appointed as a Minister.

1.17 Vice President of India to launch Elyments, First Indian Social Media Super App

- **Vice President of India M Venkaiah Naidu** is to launch **Elyments**, the first **Indian Social Media Super App**, on **5th July 2020**. More than **1000 IT professionals** jointly created the indigenous first social media super-app.

Elyments:

- Elyments was built with an aim to keep the user's privacy in mind, as a primary concern.
- The product was designed by India's top privacy professionals.
- Data of users will be stored in the app and will never be shared with a third party without the user's explicit consent.
- The app is available in more than eight Indian languages.
- The app aims to combine the special features of popular social media apps and present it on a single unified app.
- The app will allow the users to stay in touch through a vibrant feed, seamless free audio/video calls, and private/group chats.

Elyments also aims to launch:

- Audio/ Video conference calls
- Secure payments via Elyments Pay
- Public profiles who users can Follow/Subscribe
- Curated commerce platform to promote Indian brands
- Regional voice commands

1.18 Union HRD minister launched Fit Hai to Hit Hai India for school children

Union Minister of Human Resource Development Shri Ramesh Pokhriyal 'Nishank' and Minister of Sports and Youth Affairs Shri Kiren Rijiju launched the "Fit Hai To Hit Hai **India"** program under the Fit India campaign.

The Fit India Talks sessions are being organized in association with the Sports Authority of India and the Ministry of Human Resource Development.

Highlights:

- **Central Board of Secondary Education (CBSE)** has announced that it would launch a new series of fitness sessions for school going children in the **Fit India Active Day** program under this campaign.
- So far, **13,868** schools affiliated to CBSE have participated in various Fit India programs and **11,682** schools have also received the Fit India flag
- Under Fit India Campaign, **2.5 lakh** schools have registered.
- The movement was launched by **Prime Minister Narendra Modi** in **2019** with an aim to create a fit nation.
- GoI aims to ensure India stands among the top 10 countries at the **2028Olympics in Los Angeles**.

Prerak Dauur Samman: Swachh Survekshan 2021

- Recently, a new category of awards titled **'Prerak Dauur Samman'** has been announced as part of **Swachh Survekshan 2021.**

Key Points

Prerak Dauur Samman:

- The Prerak Dauur Samman has a total of five additional subcategories namely, **Divya (Platinum), Anupam (Gold), Ujjwal (Silver), Udit (Bronze) and Aarohi (Aspiring).**
- In Swachh Survekshan 2020, cities are evaluated on the criteria of **'population category'** but for 2021, they will be categorised on the basis of six select indicator wise performance criteria.
- Segregation of waste into **Wet, Dry and Hazard categories**.
- Processing capacity against wet waste generated.
- Processing and recycling of wet and dry waste.
- Construction and Demolition waste processing.
- Percentage of waste going to landfills.
- Sanitation status of cities.
- Integrated SBM-Urban MIS Portal:
- The integrated Management Information System (MIS) portal was also launched.
- It aims to bring the numerous digital initiatives on a single platform and ensure a unified and hassle-free experience for states and cities.

1.19 AMC launched Dhanvantri Rath to take Non-COVID healthcare services to doorsteps in Ahmedabad

- **Ahmedabad Municipal Corporation (AMC)** has launched **Dhanvantri Rath** to take **Non-COVID healthcare services** to peoples' doorsteps amid the ongoing COVID-19 pandemic.

- The aim is to ensure that non-COVID essential services related to **diabetes, blood pressure, heart ailment, etc.,** are also provisioned to people who cannot visit the hospitals as many of them were not operating the OPDs.

Highlights:

- Dhanvantri Rath is a mobile van that provides non-COVID essential healthcare services to the doorsteps of the people in the city.
- These vans have an **Ayush Doctor, paramedic, and nursing staff** along with a **local Medical Officer** from the **Urban Health Centre of AMC.**
- So far, AMC has deployed **120 Dhanvantri Raths** across Ahmedabad and it has successfully conducted over **4.27 lakh** OPDs consultations.
- The mobile vans carry all essential medicines including ayurvedic and homeopathic medicines, vitamin supplements, basic testing equipment along with pulse Oxymeter.
- The deployment of Dhanvantri Raths has had a substantial impact on COVID-19 management also, as several hidden cases could be identified in time.

1.20 Meity-NITI launches Digital India AatmaNirbhar Bharat App

- **Ministry of Electronics and Information Technology** (**MeitY**) in partnership with **Atal Innovation Mission, Niti Aayog** launched **Digital India AatmaNirbhar Bharat App** Innovation Challenge for Indian tech entrepreneurs and Startups.
- The aim is to build a Digital India and using Digital Technologies for building an AatmaNirbhar Bharat.

Highlights:

- The main objective is to support and build a strong ecosystem for Indian Apps.
- It will run in 2 tracks namely
- Promotion of Existing Apps
- Development of New Apps
- The focus of the Track 1 App Innovation Challenge is to identify the best Indian Apps that are already being used by citizens and have the potential to scale and become world-class Apps in their respective categories.

Track 1 has the following 8 broad categories:

Office Productivity & Work from Home

- Social Networking
- E-Learning
- Entertainment
- Health & Wellness

- Business including Agritech and Fin-tech
- News
- Games
- The Innovation Challenge has been made available on innovating. mygov.in/app-challenge from 4th July 2020.
- Track 2 of the Aatma Nirbhar Bharat App Innovation Challenge is yet to be launched. It aims to seek to identify Indian startups/entrepreneurs/companies and encourage them with ideation, incubation, prototyping, and roll out of applications.
- The track will run for a longer course of time, details of which shall be provided separately.

1.21 Friends of Police in Tamil Nadu

- Recently, the services of **Friends of Police (FOP)** has been suspended in **Tamil Nadu.**

Key Points

- The move came after a controversy over FOP volunteers being engaged in beating of **P. Jayaraj and his son J. Benicks**, which led to their death in custody.
- The FOP is a Community Policing initiative that aims to bring police and public closer. It was started in **1993** in **Ramanathapuram district of Tamil Nadu.**
- FOP helps to promote crime awareness among the people and enables prevention of crimes. It imparts fairness, transparency and impartiality in the working of police.
- Volunteers can apply for FOP following minimum criteria like no political affiliation or criminal background, etc.

Issues Involved:

- The **3rd Tamil Nadu Police Commission Report, 2008** has said that the FOP scheme is not evaluated by an independent body and its usefulness is doubted by a section of people.
- It has also mentioned that some undesirable persons enroll themselves under the FOP scheme and misuse the position.
- **Suggestion:** The **2008police report** had recommended that the **FOP scheme** should be modified as **Citizen Volunteers Scheme.**
- It mentioned that the effort of Police must be to develop such a bond with the public that all citizens are friends of Police, and not only a designated few.

1.22 Demand for Compulsory Licensing of Remdesivir

- Recently, the **CPI (Marxist) party** has suggested that the government shall issue **compulsory licences** for the manufacturing of a generic version of **Remdesivir** which is being used to treat **Covid-19 patients.**

- Generic medicines and vaccinations are copies of originally researched drugs, but at much lower prices.

Key Points

Background:

- Remdesivir is developed to treat **Ebola** and related viruses.
- According to the **World Health Organization (WHO)**, the drug helps to prevent Covid-19 viral replication. It has the best potential and can be used in high doses without causing toxicities.
- It has been observed that the USA has bought the entire stock of Remdesivir for the next three months. It will therefore not be available for the rest of the world.
- **Vaccine nationalism** occurs when a country manages to secure doses of vaccine for its own citizens or residents before they are made available in other countries.
- It is done through pre-purchase agreements between a government and a vaccine manufacturer.
- Also, the manufacturing firm of the drug Remdesivir has a patent monopoly and thus charging a price that is hundreds of times its original cost.

Proposals:

- With the USA buying up all the stocks of the drug and high cost may cause unavailability of the drug for other countries including India.
- Thus, the party has suggested the government invoking **Clause 92** of the **Patent Act (1970)** that allows it to issue compulsory licences.
- Clause 92 of the Patent Act states that the **Central Government** in circumstances of national emergency or in circumstances of extreme urgency can issue the compulsory licenses for any patent in force.
- It can be issued at any time after the sealing thereof to work the invention by notification in the Official Gazette.
- The issuance of compulsory licences will allow Indian manufacturers to produce a more affordable generic version.

1.23 Rise in Food Grain Offtake by States

- The **food grain procurement** by **states** has risen sharply due to relief measures being implemented in the wake of the Covid-19 pandemic.
- The total amount of rice utilised by the **States and Union Territories (UTs)** from the **Food Corporation of India (FCI)** under the Centre's various schemes is **192.34 lakhtonnes** in **2020** as compared to **90.71 lakh tonnes in 2019.**

Key Points

Reasons:

Increased Entitlements:

- After the breakout of the Covid-19 pandemic, it was announced that **Priority Household (PHH)** and **Antyodaya Anna Yojana (AAY)** cardholders in the country would receive free entitlement of **5 kg per person per month**, initially for **three months (April to June)** and now extended up to **November 2020.**

- This was in addition to their entitlement under the **National Food Security Act (NFSA) 2013.**

- The Centre has also announced a scheme for providing wheat and rice to ration cardholders not covered under the **NFSA or Non-Priority Household (NPHH) cardholders** at the rate of **Rs. 21 per kg and Rs. 22 per kg** respectively.

- This has been used by Tamil Nadu to provide additional entitlement of rice to about **85.99 lakh** such cardholders.

- **Needs of Migrants Labourers:** Aimed at addressing the requirements of migrant labourers who were not covered under the NFSA or any scheme of the States, the central government announced one more scheme i.e. distribution of free food grains at **5 kg** per person per month for **May and June.**

Related Data:

- The data by **FCI** has revealed that the seven States i.e. **Uttar Pradesh, Bihar, West Bengal, Maharashtra Andhra Pradesh, Tamil Nadu and Karnataka** availed over **60%** of the total quantity of rice during the pandemic.

- As for wheat, the rate of increase in offtake was not so high (around 30%). Compared to **59.45 lakh tonnes** lifted in the three months of **2019**, it was **78.16 lakh tonnes in 2020.**

- Rajasthan had drawn the highest quantity of **14.84 lakh tonnes** of wheat followed by **Uttar Pradesh** which has **drawn14.01 lakh tonnes.**

1.24 Article 78 of Constitution of India

- Recently, the **Prime Minister of India** briefed the President on '**issues of national and international importance'.**

- The meeting took place against the backdrop of border tensions with **China, economic crisis** and the Covid-19 situation.

- **Article 78 of the Constitution** deals with the duties of the Prime Minister with respect to the furnishing of information to the President.

Key   Points

As per Article 78, following are the duties of the Prime Minister:

- To communicate to the President all decisions of the **Council of Ministers (CoM - Article 74)** relating to the administration of the affairs of the union and proposals for legislation;

- To furnish such information relating to the administration of the affairs of the Union and proposals for legislation as the President may call for; and

- If the President so requires, to submit for the consideration of the CoM, any matter on which a decision has been taken by a Minister but which has not been considered by the CoM.

- Article 167 of the Constitution is a corresponding article in the state executive.

1.25 World Bank to provide USD 400 million to enhance support to rejuvenate Ganga

- **World Bank** and the **Government of India (GoI)** signed a loan agreement to enhance support for the **NamamiGange programme** that seeks to rejuvenate the **Ganga river.**

- The **Second National Ganga River Basin Project** aims to help **stem pollution in river Ganga.** It will also strengthen the management of the river basin, which is home to more than **500 million** people.

Highlights:

- The **$400 million** projects comprise a loan of **$381 million** and a proposed Guarantee of up to **$19 million**.

- The agreement aims to ensure that the river Ganga returns to a pollution-free, ecologically healthy state.

- The new project will extend the engagement of India and the World Bank in this critical national programme to make the Ganga a clean, healthy river.

- The project will help build infrastructure and institutions that are needed to make the Ganga clean.

1.26 Completion of Annual MGNREGA Work Limit

- According to the central scheme database of the **Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA),** at least **1.4 lakh** poor rural households have completed their quota of 100 days of work for the first three months of the year.

- Therefore, they will not be eligible for further benefits under the rural employment guarantee scheme for the rest of the year.

Key Points

Related Data:

- Overall, **23 lakh** households have already completed 60 days of work.

- Another **seven lakh** households have completed 80 days and are on the verge of running out of work.

- With almost **60,000** households which have completed 100 days of work, Chhattisgarh has the highest rate among States, followed by **Andhra Pradesh** with almost **24,500** households in this category.

- However, Andhra Pradesh maintains its own database showing that **8.6%** of all beneficiary households in the State have already completed 100 days of work.

Related Issues:

- **Impact of Covid-19 pandemic:** Due to Covid-19, the nationwide lockdown has resulted in thousands of unemployed migrant workers returning to their villages and now dependent on MGNREGA wages.
- **Increase in Demand for Work:** The demand for MGNREGA work almost doubled in June as there is no other work available for many people.
- Construction sector, which usually absorbs a large number of workers, has also collapsed.
- **Monsoon Season:** In many areas, monsoon is the hungry season and many people are desperate for work and dependent on MGNREGA wages.
- It is also expected that in December the situation would be worse especially for women, elderly and disabled and tribals when agriculture work is over and there will be no work from MGNREGA.

Solutions:

- **Expansion of the Scheme:** The MGNREGA scheme contains a provision for an expansion of the scheme to allow for 150 days of work per household for districts affected by drought or other natural disaster.
- Given that Covid-19 was declared a national disaster, this provision may be implemented immediately across the country.
- **Change in limit:** The limit should be imposed per adult individual rather than per household.
- **Increase in Wage:** There is a demand for an increase to 200 days per individual at a daily wage rate of **?600.**
- The current wage rate of **Rs. 200** per day does not even match up to minimum wage rates in most States.
- **Farming:** Getting employment from the Agriculture and farms is an option which can be provided to the migrants.Eg. Migrants workers being deployed in the Litchi farms of Bihar.
- **Government Initiatives:** It was announced in March that the workers under the MGNREGA would get a hike of **Rs. 2000** each on an average.
- **Garib Kalyan Rojgar Abhiyan** was started to provide employment to migrant labourers who returned home during the lockdown. The scheme covers six states — **Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand and Odisha**.
- It has as a provision to grant **125** days of employment to migrants.

1.27 Mahajobs Portal: Maharashtra

- The **Maharashtra Government** has launched a portal named **'Mahajobs'** for job seekers and employers, owing to the economic situation caused by Covid-19 pandemic.

Key Points

Aim: To make local manpower available to companies and employment opportunities to workers.

Functioning:

- The job seekers and providers/industrial units can register themselves on the Portal.
- The Portal has identified **17** sectors including **engineering, logistics, and chemicals, and provides for selecting jobs across950 trades** mainly for local youth who would need to produce domicile certificates.
- There would be regular reviews of the jobs provided. There would be a study on the kind of problems faced by employers as well as youth seeking employment.
- Developed by: **Maharashtra Industrial Development Corporation (MIDC).**
- **Corresponding Initiative at the National Level:National Career Service Project,** implemented by the **Ministry of Labour & Employment, works** towards bridging the gap **between job seekers and employers.**

1.28 Performance Assessment of Highways by NHAI

- Recently, the **National Highways Authority of India (NHAI)** has decided to undertake performance assessment and ranking of the highways in the country.
- The assessment activity majorly intended to improve the quality of roads in the country.

Key Points

Parameters for Assessment:

- The criteria for the assessment have been broadly categorised in three main heads namely, **Highway Efficiency (45%), Highway Safety (35%) and User Services (20%).**
- Additionally, important parameters like **operating speed, time taken at toll plaza, road signages, road markings, accident rate, illumination, availability of Advanced Traffic Management System (ATMS), functionality of structures, cleanliness,plantation, wayside amenities and customer satisfaction** will also be considered while conducting the assessment.
- Apart from overall ranking of all the corridors, separate ranking for **Build-Operate-Transfer (BOT), Hybrid Annuity Model (HAM) and Engineering, Procurement, and Construction (EPC)** projects will also be done.
- BOT is a conventional PPP model in which a private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector.
- In the case of HAM, the central government bears **40%** of the project cost and the remaining amount is arranged by the developer.
- Under the EPC model, the cost is completely borne by the government.

- The ranking of the corridors will be dynamic and the operators will get the opportunity to improve upon their ranking by improving the services on that corridor.

Significance:

- The score obtained by each Corridor in each of the parameters will provide feedback and corrective recourse for higher standards of operation, better safety and user experience to improve existing highways.

- It will also help in identifying and filling gaps of design, standards, practices, guidelines and contract agreements for other NHAI projects.

- The ranking for BOT, HAM and EPC projects is expected to bring out operational efficiency and ensure high quality maintenance of roads.

- On the basis of outcome of the assessment, the authority will undertake a comprehensive analysis and decide on the level of intervention required to enhance the overall service quality.

1.29 Centre released Guidelines for Evaluation of Nano-based Agri-input, food products in India

- Union Minister of Science and Technology, **Dr. Harsh Vardhan** and Agriculture Minister **Narendra Singh Tomar** released the **'Guidelines for Evaluation of Nano-based Agri-input and food products in India'** on **7 July 2020.**

- The Guidelines are aimed to help the policymakers and regulators to frame effective provisions for future novel nano-based products in the agri-input and food sectors of India.

Guidelines for Evaluation of Nano-based Agri-input and food products in India:

- The guidelines will encourage the Indian innovators and industries to develop and commercialize new nano-based formulations and products in these sectors.

- It is expected that when compared to the bulk form of chemical inputs in crops, the use of nano-nutrients can reduce nutrient run-off into ground and surface water. This will in turn can reduce environmental pollution.

- The formulation of these Guidelines is one of the most important steps for delineating quality, safety, and efficacy assessment of the novel nano-formulations which can be commercialized.

- These guidelines are also aimed to provide transparent, consistent, and predictable regulatory pathways for nano-based agri-input and food products in the country.

- The initiative has been brought on board all the Departments and Ministries that deal with Nanotechnology, and nano-based products.

- It will also pave the way for significant benefits for the mission on **Doubling Farming Income by 2022** and the **National Mission on Sustainable Agriculture.**

1.30 Shri Prahlad Singh Patel plants trees to commemorate Sankalp Parva

- In order to commemorate **SankalpParv**, **Union Minister of State for Culture and Tourism (Independent Charge) Shri Prahlad Singh Patel** planted trees in **Qila Rai Pithora** and the **National Archives of India in Delhi.**

- The move comes as the Ministry of Culture is celebrating Sankalp Parva from **28th June to12th July 2020.**

Highlights:

- The Ministry expects all its Subordinate Offices, Academies, attached Institutions, and affiliated Institutions to plant trees on its campus or in the surroundings wherever it is possible.

- Ministry of Culture has recommended people to plant five trees that have been identified and represent the herbal heritage of the country.

- **These trees are**

  Bargad

  Awla

  Pepal

  Ashok

  Bel

- The organizations are directed to ensure that each employee should plant at least one tree of his/her choice and over and above these five trees which should be planted under Sankalp Parva.

- The Institutions must also ensure that the employee to take care of plant planted by them during the year so that it survives and flourish.

1.31 DCGI approves Itolizumab for restricted emergency use on COVID-19 patients

- The **Drugs Controller General of India (DCGI)** has approved **Itolizumab** for restricted emergency use on COVID-19 patients with moderate to severe acute respiratory distress syndrome.

- Drugs Controller General of India has approved Itolizumab injection for the treatment of '**cytokine'** release syndrome in moderate to severe acute respiratory distress syndrome in patients due to COVID-19. After satisfactory result from clinical trials, the drug was approved.

- Itolizumab injection is already an approved drug of **Biocon Limited** used for the treatment of patients with active moderate to severe psoriasis.

1.32 HRD Ministry formulates SOP for conducting University examinations in Country

- The **Human Resource Development Ministry** has formulated a detailed **Standard Operating Procedure (SOP)** for conducting **University examinations in the country**. The SOP formulated in association with the Ministry of Home Affairs and Ministry of Health has been devised to ensure students' safety, fairness and equal opportunity amid the global pandemic due to COVID-19.

- **Union HRD Minister Ramesh Pokhriyal** has informed that the UGC has issued a guideline to conduct all the examinations of the terminal semester in the Universities by **30th September this year**. He said, these exams will be conducted through offline, online or mixed mode.
- HRD Minister informed that in case any student of final year is unable to appear in these examinations, the student will be given an opportunity at a later stage.
- Mr. Pokhriyal asserted that ensuring academic credibility, career opportunities and progress of students holds prime importance in the education system. He added that the educational evaluation of students is a very important milestone in any education system.

1.33 National Fish Farmers Day 2020 Observed on 10th July

- Every year, India celebrates **10 July** as the **"National Fish Farmers' Day"** to honor fishermen, aquapreneurs and fishermen in appreciation of their achievements in the field and their contribution to the growth of the country's fisheries sector. It was **63rd National Fish Farmer's Day** this year.

Background History:

- Every year, on 10 July, the National Fish Farmer's Day is celebrated in memory of scientists Dr. K. H. Alikunhi and Dr. H.L. Chaudhury who successfully demonstrated induced breeding (Hypophysation) technology in Indian Major Carps on 10 July 1957 at the former CIFRI Pond Culture Division in Cuttack, Odisha. (presently Central Institute of Freshwater Aquaculture, CIFA, Bhubaneswar).
- The event aims to draw attention to changing the way the country manages fisheries resources to ensure sustainable stocks and healthy ecosystems.
- The event is celebrated every year by congratulating outstanding farmers, aquapreneurs, and farmers in appreciation of their accomplishments in the field and their contribution to the development of the country's fisheries sector.
- Apart from officials, scientists, professionals, entrepreneurs, and stakeholders, fishermen, and fish farmers from across the nation will participate in the event.

1.34 Draft Aids to Navigation Bill 2020

- Recently, the **Ministry of Shipping** has issued the draft of the **Aids to Navigation Bill, 2020** for suggestions from the stakeholders and general public.
- It aims to regulate state-of-the-art technologies of marine navigation which was earlier used to tangle in **statutory provisions ofLighthouse Act, 1927.**
- A navigational aid is any kind of marker which aids the traveler in navigation, usually nautical or aviation travel. Common types of such aids include **lighthouses, buoys, fog signals, and day beacons.**

Key Points

- **Replacement of Lighthouse Act:** It is proposed to replace the nine decades old **colonial Lighthouse Act, 1927**, to incorporate the global best practices, technological developments and India's International obligations in the field of aids to marine navigation.

- It also provides for identification and development of heritage lighthouses.

- The Lighthouse Act is an act relating to the provision, maintenance and control of lighthouses. It was enacted by the **Britishers in 1927.**

- **Empowerment of DGLL:** It provides for empowering **Directorate General of Lighthouses and Lightships (DGLL)** with additional power and functions such as **vessel traffic service, wreck flagging, training and certification, implementation of other obligations** under International Conventions, where India is a signatory.

- **Offences:** It comprises a new schedule of offences, along with commensurate penalties for obstructing and damaging the aids to navigation, and non-compliance with directives issued by the Central Government and other bodies.

- **Aids to Navigation Cess:** Every ship arriving at or departing from any port in India will have to pay cess at rates notified by the Central government.

- Currently, the Central government, as per the provisions of the Lighthouse Act, levies light dues on all the foreign going ships arriving at or departing from any port in India.

- Light dues are the charges levied on ships for the maintenance of lighthouses and other aids to navigation.

Significance

- **Proactive Approach:** The draft bill is part of the proactive approach adopted by the Ministry of Shipping by repealing archaic colonial laws and replacing it with modern and contemporary needs of the maritime industry.

- **Misinterpretation of the Lighthouse Act:** It is often seen that the Act is misinterpreted by the custom department under the Customs Act of 1962 and has led to incorrect collection of a huge sum of light dues thereby putting financial & economic burden upon citizens.

- **Modern Technologies:** The role of authorities regulating and operating maritime navigation has changed drastically along with the advent improved aids to maritime navigation.

- The new law encompasses a major shift from lighthouses to modern aids of navigation.

- **Strengthening of the Provisions:** The suggestions from the public and stakeholders will strengthen the provisions of the legislation. This is in line with the vision for augmenting people's participation and transparency in the governance.

1.35 India Cycles4Change Challenge

The **Smart Cities Mission (under the Ministry of Housing and Urban Affairs)** has opened the

registration for **India Cycles4Change Challenge.**

India Cycles4Change Challenge was launched in **June 2020.**

Key Points

- **Aim:** To inspire Indian cities to implement quick cycling-friendly interventions in the wake of Covid-19 with the support of their citizens and assistance from experts.
- Cities would be encouraged to create extensive cycling-networks using low-cost methods like pop-up cycle lanes, non-motorised zones and set up community-led cycle rental schemes.
- In the longer term, the Smart Cities Mission encourages cities to convert temporary interventions into permanent.

Coverage:

- The Challenge is open to all cities under the Smart Cities Mission, capital cities of States/UTs, and all cities with a population of more than 5 lakh population.
- All eligible cities can register and submit their applications on the portal (https://smartnet.niua.org/indiacyclechallenge/).
- The portal also has a registration form for citizens, experts, and **Civil Society Organizations (CSOs)** to express their interest in collaborating with the city for the project.
- **Functioning:** The Challenge will run in two stages.
- Stage One will run until **October 2020** where cities will focus on piloting quick interventions to promote cycling and developing a scale-up strategy.
- In **October 2020, 11 cities** will be shortlisted and will receive **Rs. 1 Crore** award and guidance from national and international experts to further scale-up the initiatives in Stage Two, which will be held until **May 2021.**
- **Knowledge Partner:** The India Programme of the **Institute for Transportation and Development Policy (ITDP)** will be the knowledge partner of the Smart Cities Mission to assist the Mission in conducting this challenge and guiding cities in developing and implementing their proposals.

Need of Such an Initiative:

- The need for personalized forms of transport is expected to increase as a response to Covid-19. Some Indian cities have already started working towards promoting cycling as a response to the pandemic.
- **Kolkata** has proposed a dedicated cycle corridor by reclaiming parking spaces.
- In **Guwahati**, the **Green lane Foundation**, with the support of the **Bicycle Mayor of Guwahatiand Pedal** for a Change, is conducting a survey for citizens to vote for the best routes for bicycle lanes in the city.
- A recent survey by the ITDP India Programme shows that cycling would increase by **50-65%** as cities come out of lockdown.

- Cities around the world are leveraging the opportunity to expand their cycling networks and public bicycle-sharing systems.
- Further, increasing cycling can help cities in a green economic recovery.
- Investments in cycling infrastructure have economic benefits of up to **5.5 times** the initial investment.
- Cycling for short distances can result in an annual benefit of **Rs.1.8 trillion** to the Indian economy.

1.36 MSDE launched ASEEM Portal

- The **Ministry of Skill Development and Entrepreneurship (MSDE)** has launched **'Aatamanirbhar Skilled Employee Employer Mapping (ASEEM)' portal** to help skilled people find sustainable livelihood opportunities.
- The Portal is expected to improve the information flow and bridge the demand-supply gap in the skilled workforce market.

Key Points

Developed and Managed By: **National Skill Development Corporation (NSDC)** in collaboration with Bengaluru-based company **'Betterplace'.**

Artificial Intelligence (AI) Based Platform:

- It will provide real-time data analytics about the demand and supply patterns including - industry requirements, skill gap analysis, demand per district/ state/cluster??, key workforce suppliers, key consumers?, migration patterns? and multiple potential career prospects for candidates.
- It will enable policymakers to take a more objective view of various sectors in the economy.
- Driven by Prime Minister's assertion of **'India as a talent powerhouse'** at the **India Global Week 2020 Summit**, it will further re-engineer the vocational training landscape in the country ensuring a skilling, up-skilling and reskilling in a more organised set up.
- **Functioning:** Also available as an application (app), it consists of three IT based interfaces:
- **Employer Portal:** Employer onboarding, demand aggregation, candidate selection.
- **Dashboard:** Reports, trends, analytics, and highlight gaps.
- **Candidate Application:** Create & track candidate profile, share job suggestions.

Benefits:

To Skilled Workforce:

- It will have provision for registration and data upload for workers across job roles, sectors and geographies.
- It will help in strengthening industry-relevant skills and explore emerging job opportunities especially in the post Covid era.

- Candidate data coming to Skill India Portal from various state and central skilling schemes will be integrated including that from Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Fee-based Programs, National Urban Livelihoods Mission, Deen Dayal Upadhyaya Grameen Kaushalya Yojana, etc.

To Migrants:

- Database of labour migrants in Indian states and overseas citizens, who returned to India under the Vande Bharat Mission and filled SWADES Skill Card, has been integrated with the ASEEM portal.
- To Employers: They will be able to assess the availability of a skilled workforce and formulate their hiring plans.

1.37 Snakebite Deaths in India

- Recently, a study conducted by the **Centre for Global Health Research (CGHR)** at the **University of Toronto (Canada),** with **Indian and United Kingdom** as partners, has revealed that India recorded **1.2 million snakebite deaths** from **2000 to 2019 (i.e. an average of annual 58,000 deaths).**
- Earlier, in the largest ever such survey published in **2011** titled **'Snakebite Mortality in India: A Nationally Representative Mortality Survey'**, estimated **46,000** annual snakebite deaths in India.

Key Points

Data Analysis:

- Half of all the snakebite deaths occurred during the monsoon period from June to September.
- Around **70%** of deaths occurred in limited, low altitude, rural areas of the following States — **Bihar, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh, Andhra Pradesh, Telangana, Rajasthan and Gujarat.**
- The numbers for annual snakebite deaths were highest in the states of Uttar Pradesh, Andhra Pradesh, and Bihar.
- The snakebite deaths occurred mostly in **rural areas (97%),** were more common in **males (59%)** than **females (41%),** and peaked at ages **15-29 years (25%).**
- The overall lifetime risk of being killed by snakebite is about **1 in 250,** but in some areas, the lifetime risk reaches **1 in 100**.
- It also indicated that most of the envenomation (the process by which venom is injected by the bite or sting of a venomous animal) was by **Russell's vipers** followed by **Kraits and Cobras**.

Solutions:

- **Immediate Action:** As India has tremendous snakebite burden and the **World Health Organization (WHO)** recognises snakebite as a top-priority **Neglected Tropical Disease (NTD),** there is a need for immediate action.
- **Snake Safe Harvest Practices:** The primary victims of snakebites are rural farmers and their families. Targeting certain areas and educating people with simple methods such as **'snake-safe'** harvest

practices — using rubber boots and gloves, mosquito nets and rechargeable torches (or mobile phone flashlights) — could reduce the risk of snakebites.

- **Snake Species Database:** Habitat details, clear photographs and geographical distribution in the form of snake database would help in the identification of the venomous and nonvenomous snake species.
- **Anti-Venom:India** has sufficient capacity to manufacture large volumes of **anti-venom**. However, Indian anti-venoms neutralise venom from only **spectacled cobra, common krait, Russell's viper and saw-scaled viper,** whereas there are 12 other snake species causing fatal bites that are not covered by current anti-venoms.
- Antivenoms are the medicines produced from antibodies made by animals to injected venoms.
- It is given to stop snake venom from binding to tissues and causing serious blood, tissue, or nervous system problems.

1.38 India's Independence in Swabhiman Anchal region

- Recently, a passenger bus service was started for the first time after **India's Independence in Swabhiman Anchal region** (formerly known as the cut-off area) in **Odisha's Malkangiri District.**

Key Points

- The bus service was able to start after the construction of the **Gurupriya Bridge in 2018**, which connected **Swabhiman Anchal** with the rest of the State.
- Till now, motor launches and boats were used to be the only mode of communication to reach ferry points and from there people were taking country boats to reach villages.
- People were even using horses to travel in the remote parts of Swabhiman Anchal.
- Swabhiman Anchal is situated along the **Odisha-Andhra Pradesh border**, and had long been a stronghold of left-wing extremists.
- The region is covered by water from three sides and another side by inhospitable terrain.
- **Balimela reservoir** is also situated in the region.
- Recently, a new police station also started functioning in **Jodambo** (a gram panchayat in Swabhiman Anchal).

1.39 Powers of Election Commission to delay Polls

Recently, various political parties have voiced their concerns over holding elections in Bihar amid Covid-19 pandemic and asked to postpone the same.

Key Points

Election Commission Mandate:

- The **Election Commission (EC) of India** is mandated under law to hold elections at any time within six months before the five-year term of the **Lok Sabhaor Legislative Assembly** expires.

- The polls are timed in a way that the new Assembly or Lok Sabha is in place on the day of the dissolution of the outgoing House.
- For instance, in the case of Bihar, the EC should normally conduct Legislative Assembly elections before the end of its time on **29th November 2020.**
- In the case of early dissolution, EC has to ensure a new Lok Sabha or Assembly is in place within six months of the dissolution.
- The six months is the constitutionally defined limit between two sessions of the **House/Assembly (Article 85(1)** and **Article 174(1) of the Constitution, respectively).**

Postponement of Election:

- An election once called usually proceeds as per schedule.
- However, in some exceptional cases, the process can be postponed or even scrapped after its announcement under extraordinary circumstances.
- Under Section **153** of the **Representation of the People Act, 1951,** read with **Article 324** of the Constitution of India, the EC can extend the time for completing an election, but such extension:
- Should not go beyond the six months.
- Should not go beyond the date of the normal dissolution of the Lok Sabha or the Assembly.
- In **1991**, the EC postponed the ongoing parliamentary elections for three weeks after Rajiv Gandhi's assassination during his campaign in Tamil Nadu.
- Recently, in **March 2020** elections to **18 Rajya Sabha** seats were postponed by the EC due to the Covid-19 pandemic**.**

Grounds for Election Postponement:

- Article 172(1) states that, in case of a state of Emergency, an election can be postponed for one year at a time in addition to a period of six months after the Emergency is lifted.
- There is no specific legal provision that specifies the circumstances under which elections can be deferred in non-Emergency situations.
- However, law and order, natural calamities like earthquakes and floods, or any other compelling circumstances which are beyond EC's control can be the grounds for extension.

Legal Issues Involved:

- Powers under Section 153 can be exercised only after an election schedule has been notified.
- If the EC wants to postpone Bihar elections, it will have to be done through its extraordinary powers under Article 324.
- Under Article 324 the EC will have to inform the government of its inability to hold polls on time.
- The government can decide the future course — to impose President's Rule or allow the incumbent Chief Minister to continue for six more months.

1.40 Disabled are Entitled to Same Benefits of SC/ST quota: SC

- Recently, the **Supreme Court of India** observed that persons suffering from disabilities are also socially backward and entitled to the same benefits of relaxation as **Scheduled Caste/Scheduled Tribe** candidates in public employment and education.

Key Points

Background:

- The decision came on a petition filed by **Aryan Raj,** a special needs person, against a Punjab and Haryana High Court order.

- Raj was denied relaxation in minimum qualifying marks in the Painting and Applied Art course in the **Government College of Arts, Chandigarh.**

- The college insisted that disabled persons too need to meet the general qualifying standard of **40%** in the aptitude test, whereas SC/ST candidates were given a relaxation to **35%.**

Upheld Delhi High Court Judgement:

- In the **Anmol Bhandari v. Delhi Technological Universitycase (2012),** the **Delhi High Court** held that people suffering from disabilities are also socially backward, and are therefore, at the very least, entitled to the same benefits as given to the Scheduled Caste/ Scheduled Tribe candidates.

- New academic courses should be designed to specifically cater to the needs of intellectually disabled persons.

- The Court observed the fact that intellectually/mentally challenged persons have certain limitations, which are not there in physically challenged persons.

- Benefits to Scheduled Caste/Scheduled Tribe:

- **Article 15 (4)** empowers the State to make special provision for the advancement of the SCs and the STs. E.g. providing fee concession in admission to any educational institution, building hostels for SCs/STs.

- **Article 15 (5)** empowers the State to reserve seats for SCs and the STs in admission to educational institutions including private educational institutions, whether aided or unaided by the State.

- However, it excludes minority educational institutions referred to in **Article 30 (1).**

- **Article 16 (4)** empowers the State to make provisions for the reservation of appointments or posts in favour of SCs/STs.

1.41 MoU between NATGRID and NCRB

- Recently, the **National Intelligence Grid (NATGRID)** has signed a **Memorandum of Understanding (MoU)** with the **National Crime Records Bureau (NCRB)** to access the centralised online database on **FIRs and stolen vehicles.**

- NATGRID which seeks to become the one-stop destination for security and intelligence agencies will be operational by **31st December 2020.**

Key Points

- **Access to CCTNS:** The MoU will give NATGRID access to the **Crime and Criminal Tracking Network and Systems (CCTNS)** database, a platform that links around **14,000** police stations.
- All State police are mandated to file **First Information Reports (FIR) in the CCTNS.**
- The MoU enables the NATGRID to get information about details of a suspect as mentioned in the FIR such as his/her father's name, telephone number and other details.

Concerns:

- **Infringe on the Federal System of the Constitution:** The NCRB under the Union government is only a repository and the data pertaining to FIRs of a particular police station are a State subject.
- However, it does not seem to violate any legal provisions as data pertaining to FIRs is shared with all the police stations.
- The State police will not be a part of NATGRID and they could directly contact the airlines or railways for information.
- Providing Information to Multiple Agencies: Earlier the Civil Aviation Ministry and airline companies had raised concerns in providing information to yet another agency — NATGRID as they already provide information to the Bureau of Immigration and the customs authorities.
- **Privacy Issues:** Many agencies raised their concern regarding the accessibility of Data and privacy.
- However, the information accessed by one agency through the grid will not be accessible to any other agency as it will be an automated system and the request will land directly with the concerned department.
- **Expenditure:** The major amount of funds would be required for the expenditure towards the NATGRID software solution and for building infrastructural works of offices, Data Centre etc. at Delhi and Bengaluru.
- **Technology Intensive Solutions:** The solutions provided by the NATGRID would be technology-intensive (e.g. use of Big Data and analytics) involving multiple stakeholders.

1.42 Flood Resistant Paddy: Assam

- Recently, farmers from **Golaghat District** in **Assam** have cultivated new flood resistant paddy varieties to shift from the traditional ones.
- The varieties called **Ranjit Sub1, Swarna Sub1 and Bahadur Sub1** have been used by about **60%** farmers of the **West Brahmaputra area.**

Key Points

- Farmers in flood-prone areas of Assam have been harvesting the water-resistant Swarna Sub1, developed by the **Indian Council of Agricultural Research and the Manila-based International Rice Research Institute, since 2009.**
- But the switchover from traditional varieties of paddy has been slow.
- The flood-resistant varieties including **Ranjit Sub-1 were reintroduced in 2018.**

Significance:

- **Resist Submergence:** The new rice varieties can resist submergence for up to two weeks, and significantly do not get damaged by the heavy flood.
- However, comparison with the traditional varieties is difficult as they get damaged in the flood.
- **Greater Yield:** Enriched with the 'submergence' (sub in short) gene, the varieties can yield up to five tonnes per hectare on an average.
- **Reduction in Crop Loss:** Some **1,500** farmers cultivate on about 950 hectares in crop-yielding areas which have been impacted by the regular flood. Therefore, rice varieties can reduce flood-caused crop loss substantially.
- **Regeneration:** These varieties can get regenerated again in case damaged by the flood, hence ensure maximum productivity.

1.43 FASTag Details for New Vehicle Registration

Recently, the **Ministry of Road Transport and Highways (MoRTH)** has decided to ensure capturing of **FASTag** details while registering or issuing fitness certificates to vehicles all over the country. Besides facilitating smooth commutation/transit, use of electronic medium of FASTag payment, would also help in checking Covid-19 spread as cash payment is avoided.

Key Points

- The **MoRTH** has directed the **National Information Centre (NIC)** to ensure details of the electronic toll collection device are captured on **VAHAN portal.**
- The full integration of **National Electronic Toll Collection (NETC)** with VAHAN portal has been achieved and the portal is now getting all information on FASTags through **Vehicle Identification Number/ Vehicle Registration Number (VIN/VRN).**
- **VAHAN Portal:** It acts as an integrated solution for vehicle registration for the State Transport Department. It helps in various processes like fitness, taxes, permits & enforcement to get computerized.
- The State Transport Department is governed by both **Central Motor Vehicle Regulation (CMVR)** and state **specific Motor Vehicle Regulation (State MVR).**
- Consequently, VAHAN was conceptualized as a product that would capture the functionalities mandated by CMVR as well as state MVRs.

- **National Electronic Toll Collection:** It was developed by **National Payments Corporation of India (NPCI)** in **2016** for electronic toll collection at toll plazas using FASTag.

1.44 Rashtriya Chemicals and Fertilizers Limited

- **Rashtriya Chemicals and Fertilizers Limited (RCF)** has introduced a hand cleansing **IsoPropyl Alcohol (IPA)** Based Gel '**RCF SAFEROLA**' to assist the government in its effort to combat Covid - 19.

Key Points

- The hand cleansing gel is a skin friendly moisturizer-based hand-sanitizer which contains **IsoPropyl Alcohol (IPA) and Aloe Vera extract.** It is enriched with Vitamin-E and has a fresh lime fragrance.

- RCF is a **'Mini Ratna'** company and is a leading producer of fertilizers and chemicals in the country. It is under the Ministry of Chemicals and Fertilizers.

- It manufactures **urea, complex fertilizers, bio-fertilizers, micro-nutrients, water soluble fertilizers, soil conditioners and a wide range of Industrial Chemicals.**

- The company is a household name in rural India with brands **'Ujjwala' (Urea) and 'Suphala' (Complex Fertilizers).**

- It has two operating units, one at **Trombay in Mumbai** and the other at **Thal, Raigad district**, about **100 km from Mumbai.**

1.45 PRAGYATA: Guidelines on Digital Education

- Recently, the **Ministry of Human Resource Development (MHRD)** has released guidelines on digital education titled **'PRAGYATA'.**

- The guidelines have been prepared by the **National Council of Educational Research and Training (NCERT).**

- These are only advisory in nature and state governments can formulate their own rules, based on local needs.

- The guidelines include eight steps of online/digital learning i.e. **Plan- Review- Arrange- Guide- Yak (talk)- Assign- Track- Appreciate.**

Key Points

Digital Access:

- Over **25 crore** students across the country have been out of school since **mid-March 2020**. (owing to Covid-19 pandemic). The guidelines acknowledge that these students live in households which fall into different categories:

- Those who have computers or smartphones with **4G internet access.**

- Those with smartphones but limited or no internet access.

- Those with television with **Cable or DTH.**

- Those with a radio set or a basic mobile phone with **FM radio.**

- And those with no communication devices at all.

- It emphasised the aim of digital classrooms is not to try and recreate **Face-to-Face (F2F) classrooms** over the internet.

- **Need for Survey:** It advises schools to first survey the digital infrastructure available with teachers as well as students, the levels of parental involvement before making decisions about the mode of teaching.

- Therefore, schools must also make arrangements to reach students who do not have access to any digital infrastructure at home.

- **Duration:** For kindergarten, nursery and pre-school, only 30 minutes of screen time per day for interacting with parents is recommended.

- Schools can hold live online classes for a maximum of **1.5 hours per day for Classes 1-8**, and **3 hours per day for Classes 9-12.**

- **Synchronous or Real-time Communication:** This is real-time teaching and learning that can happen collaboratively at the same time with a group of online learners or individuals, and teachers allowing instant feedback, e.g. online teaching through **video conference, audio conference, using satellite or telecommunication facilities.**

- However, schools should not assume that teaching-learning through it is the only requirement in order to support effective digital learning.

- **Asynchronous Learning:** Apart from live classes, it offered a number of recommendations for asynchronous learning with tools to allow students to download lessons or listen to radio and TV programmes, communicate through Whatsapp and SMS, study on their own and undertake creative projects.

- **Health Issues:** Children exposed to digital technologies or gadgets for a longer time are prone to severe health issues.

- Hence sitting with digital gadgets for longer hours or their excess use can be avoided by designing age appropriate schedules.

- **Cyber Safety:** It also recommends ethical practices including precautions and measures for maintaining cyber safety.

- **Convergence:** It envisages convergence with the government initiatives on digital education e.g. **SWAYAM Prabha, SWAYAM, DIKSHA and Radio Vahini, Shiksha Vaani.**

1.46 Data on Covid-19 after-effects

- Recently, the **Directorate General of Health Services (DGHS)** has started collecting data on post Covid-19 medical complications from leading **Central Government** and other hospitals across India.

- DGHS is a repository of technical knowledge concerning public health, medical education and health care. It is an attached organisation of the **Ministry of Health and Family Welfare**.

Key Points

- Leading physicians from across the country have indicated that they are seeing some worrying medical complications among the recovered patients.
- Stress on the body associated with Coronavirus could lead to long and short term complications.
- Data is being collected on the medical complications including Covid-19-induced Diabetes, impaired Lung, Heart, liver and Brain functions along with acute fatigue and dyspnea (shortness of breath).
- It would help the Health Ministry to come out with guidelines on further care and treatment of those who had recovered.

Data Highlight:

- **86%** of the Covid-19 cases in the Country were reported from **10 state**s, with **Maharashtra and Tamil Nadu** accounting for **50%.**
- The overall recovery rate had climbed from **47.6% (31st May) to 63.02% currently.**

Trends in Recovered Patients:

- Patients took a long time to fully recover with complaints of feeling lethargic, completely drained out, mentally depressed with the inability to concentrate.
- Those who developed pneumonia, lung function improves within some months of recovery but some may not normalise due to the fibrosis (development of fibrous connective tissue as a reparative response to injury or damage).
- Possibilities of long-term lung function deterioration and vascular diseases.
- Indications of Covid-induced diabetes.

After-effects of Covid-19:

- The damage is caused by thrombosis in the small vessels that ultimately damages lung tissues and other organs, including the heart and can lead to fatal pulmonary embolism.
- Thrombosis is the formation of a blood clot, known as a thrombus, within a blood vessel. It prevents blood from flowing normally through the circulatory system.
- **Pulmonary Embolism (PE)** is a condition in which one or more arteries in the lungs become blocked by a blood clot.

1.47 First on-line NISHTHA programme for 1200 Key Resources Persons of Andhra Pradesh

- **Union HRD Minister Shri Ramesh Pokhriya 'Nishank'** and Minister of State for **HRD Shri Sanjay Dhotre** virtually launched the first on-line **NISHTHA programme** for **1200** Key Resources Persons of Andhra Pradesh on **16 July.**

Highlights:

- Around **23,000** Key Resource Persons and **17.5 lakh** teachers and school heads have been trained under this NISHTHA face to face mode till date.

- For training the remaining **24 lakh teachers** and school heads, NISHTHA has been customized for online mode.

- NISHTHA is a National Initiative for School Heads' and Teachers' Holistic Advancement at the elementary stage under **Samagra Shiksha -a flagship programme of MHRD** to improve learning outcomes.

About 'National Initiative for School Heads' and Teachers' Holistic Advancement'

- NISHTHA is the largest teachers' training programme of its kind in the world.

Objective: To motivate and equip teachers to encourage and foster critical thinking in students.

- Teachers will get awareness and develop their skills on various aspects related to:
- Learning Outcomes,
- Competency-Based learning and Testing,
- Learner-centered Pedagogy,
- School Safety and Security,
- Personal-social qualities,
- Inclusive Education,
- ICT in teaching-learning including Artificial Intelligence,
- Health and well-being including yoga,
- Initiatives in School Education including library, eco-club, youth club, kitchen garden,
- School Leadership qualities,
- Environmental Concerns,
- Pre-school, Pre-vocational Education and School-Based assessment.

1.48 India's Population Trends: Lancet

- According to a recent analysis by the Lancet, India's population is forecasted to peak around **1.6 billion in 2048 from 1.38billion in 2017.**

- It will be followed by a **32%** decline to around **1.09 billion in 2100.**

Key Points

- For the study, researchers used data from the **Global Burden of Disease Study 2017.**

- The Global Burden of Disease Study is a comprehensive regional and global assessment of mortality and disability from major diseases, injuries and risk factors.

- The study was initiated in the 1990s as a collaborative effort of hundreds of experts worldwide, including researchers at the **World Health Organization (WHO),** and the World Bank.

- Hampered Economic Growth: The study has predicted dramatic declines in working-age populations in countries such as India and China, which will hamper economic growth and lead to shifts in global powers.

India Specific Data:

- India in **2100** will be the world's most populous Country.

- The number of working-age adults aged **20-64** in India is projected to fall from around **762 million** in **2017** to around **578 million in 2100.**

- However, India has been forecasted to have the largest working-age population in the world by **2100**.

- India is also expected to surpass China's workforce population in the mid-2020s, where the working-age population is estimated to decline from **950 million in 2017 to 357 million in 2100.**

- From **2017 to 2100**, India is projected to rise up the rankings of countries with the largest total **Gross Domestic Product (GDP)** globally from **7th to 3rd, in terms of nominal GDP.**

- The country's **Total Fertility Rate (TFR)** declined to below **2.1** in 2019 (data taken from the Global Burden of Disease Study 2017) and is projected to have a continued steep fertility decline until about **2040**, reaching a TFR of **1.29 in 2100.**

- TFR indicates the average number of children expected to be born to a woman during her reproductive span of 15-49 years.

- India is also forecasted to have the second-largest net immigration in 2100, with an estimated half a million more people immigrating to India in 2100 than emigrating out.

- Given the trends of countries like the USA banning work visas and India being a developing country, has the potential to offer a huge manufacturing market to immigrants who want to work here.

Global Data:

- The world population is forecasted to peak at around 9.7 billion people in **2064** and fall to **8.8 billion** by the century's end, with **23** countries seeing populations shrink by more than **50%, including Japan, Thailand, Italy and Spain.**

- By 2100, a total of 183 out of 195 countries will have TFR below the replacement level of **2.1 births per woman**. The global TFR is predicted to steadily decline from **2.37 in 2017 to 1.66** in **2100**, well below the minimum rate of **2.1.**

- Replacement level fertility is the number of children needed to replace the parents, after accounting for fatalities, skewed sex ratio, infant mortality, etc. The population starts falling below this level.

- Huge shifts in the global age structure, with an estimated **2.37** billion individuals over **65 years** globally in **2100** compared with the **703 million in 2019.**

1.49 **Vallarpadam Terminal**

- Recently, the **Ministry of Shipping** reviewed the development of the country's first trans-shipment **hub - Kochi International Container Trans-shipment Terminal (ICTT).**
- ICTT is locally known as the **Vallarpadam Terminal.**

Key   Points

Trans-shipment Hub:

- It is a terminal at a port which handles containers, stores them temporarily and transfers them to other ships for the onward destination.
- It basically acts as a switching point for cargo carried by deep-sea vessels operating on trans-continental trade routes.

Vallarpadam Terminal:

- It is a part of the **Cochin Port in Kochi, Kerala**. It is located on Vallarpadam Island.
- It was built with an investment of about **Rs. 3,200 crore**, shared by the government and the **Dubai-government-owned entity (Dubai Ports World).**
- It was opened in **February 2011** and can handle cargo up to **one million TEUs (Twenty-foot equivalent units) per annum.**
- It is proposed to be a leading trans-shipment hub of South Asia. This is because of its:
- Proximity to International Sea routes.
- Location with respect to all Indian feeder (secondary/smaller) ports.
- Proximity to key hinterland markets of India.
- Large infrastructure to manage large ships and capacity to scale it up as per requirement.

Expected Benefits:

- It will cut India's dependence on neighboring hub ports such as **Colombo inSri Lanka, Jebel Ali in Dubai and Port Klang in Malaysia** to send and receive container cargo, thus saving time and cost for exporters and importers.
- It is in line with the **Prime Minister's vision of Atmanirbhar Bharat**. It will ensure that Indian cargo trans-ship through an Indian Port.
- Further, the Indian ocean is one of the most critical maritime transportation links in the world.
- It will facilitate the setting up of port based industries and their allied facilities such as Container Freight Station, Island Container Depots, etc. in Kerala which will generate additional employment opportunities.

1.50 India Lifted 271 Million People Out of Poverty

- According to **India's Voluntary National Review (VNR) of Sustainable Development Goals (SDG)** at least **271 million** people were lifted out of multi-dimensional poverty between **2005-06 and 2016-17.**

- The VNR of SDGs has been presented by the **NitiAyog** at **the High-Level Political Forum on Sustainable Development.**

Key Points

Related Data:

- The estimates presented were drawn from the **2019 global Multidimensional Poverty Index (MPI)** released in **July 2019**.
- Over **640 million** people across India were in multidimensional poverty in **2005-2006.**
- The number of people living under poverty decreased to around **369.55 million** by **2016-2017.**
- However, **27.9%** of India's population was still poor in **2016-17**
- **Poverty Reduction:** In rural areas poverty reduction has outpaced that in urban areas.

Grant in Aid for Rural Local Bodies

- Recently, the **Ministry of Finance** has released a part of grants-in-aid of **Rs. 15187.50 crore** for around 2**.63 lakh Rural Local Bodies (RLBs) of 28 States.**
- This has been made on the recommendations of the **Ministry of Panchayati Raj and the Department of Drinking Water and Sanitation, Ministry of Jal Shakti.**
- This forms part of the Tied Grant as recommended by the **15th Finance Commission (FC) for the Financial Year (FY) 2020-2021.**

Key Points

- **Recommendation of 15th FC:** It recommended the grant in aid of **Rs. 60,750 crore** for (FY 2020-21) the RLBs which is the highest ever allocation made by the Finance Commission in any single year.
- **Allocation:** It will be allocated in two parts, namely Basic Grant and Tied Grant in 50:50% mode.
- **Basic Grant:** These grants are untied and can be used by RLBs for location-specific needs, except for salary or other establishment expenditure
- Untied funds are utilised for the works of emergent nature which are normally not covered under the schemes decentralized at the district level.
- **Tied Grants:** These are used for the basic services of:
- Sanitation and maintenance of **Open-Defecation Free (ODF) status.**
- Supply of drinking water, rain water harvesting and water recycling.
- The RLBs shall, as far as possible, earmark one half of these grants each to these two critical services.
- However, if any RLB has fully saturated the needs of one category it can utilize the funds for the other category.
- **Distribution:** The State Governments will be distributing the grants to all the tiers of the Panchayati Raj -Village, Block and District including the traditional bodies of 5th and 6th Schedule areas based

on the accepted recommendations of the latest State Finance Commission (SFC) and in conformity with the recommendations of the 15th FC.

- **Assistance:** The Ministry of Panchayati Raj would support the states in effective utilization of the grants by providing Web/IT enabled platforms for planning, monitoring, accounting / auditing of the works and funds flow at the level of each of the RLBs.

Significance:

- **Fighting Covid 19:** It would help RLBs in providing employment. E.g. migrant laborers who have returned to their native places owing to Covid-19 pandemic situation.
- **Delivery of Basic Services:** Availability of this fund will boost RLBs effectiveness in delivery of basic services to the rural citizens.
- **Rural Infrastructure:** It will augment the rural infrastructure in a constructive way e.g construction of roads, supply of water etc.

1.51 Dichotomy in Animal Sacrifice: SC

- Recently, the **Supreme Court** has issued a notice to the Kerala government on a plea challenging the **Kerala Animals and Birds Sacrifices Prohibition Act, 1968.**
- The Act prohibits sacrifice of animals and birds in temples to 'please' the deity.
- It also criminalises the intent behind the animal sacrifice and not animal sacrifice per se.
- If the sacrifice is not for pleasing any deity but for personal consumption even in the precincts of the temple, it is not forbidden.

Key Points

Background:

- The plea challenged the **16th June 2020 Kerala High Court order upholding the 1968 Act.**
- **Essential Practice:** The petitioners, who are Shakthi worshippers, appealed that animal sacrifice is an integral part of the worship and an essential religious practice.
- They are unable to perform **"Bali"** rituals after the ban which they believe is diminishing the family deity's power.
- Shaktism or Shakthi tantric practice is a major tradition of Hinduism and as per its scriptures and practices, animal sacrifice is essential and unavoidable.
- **Discriminatory:** It was also argued that the Act applies only to Hindus but does not stop other religions from practising it which is arbitrary and violative of Article 14 (Right to Equality before the Law) of the Constitution.
- Petitioners referred to bird sacrifice at a Church in Kochi and the festival of Bakrid which have not been banned.

- According to the state assembly, killing animals in other religious practices cannot be considered as a sacrifice because the animals are later cooked and consumed.
- **Enforce Blanket Prohibition:** They held that if the killing of animals and birds was to be prohibited, it should be for all purposes, religious or otherwise.

Supreme Court's Reaction:

- The SC highlighted the dichotomy in animal protection law which allows the killing of animals for food but does not permit the killing of animals as an offering to a deity.
- The Court raised an important question of "Is killing, not cruelty?" and highlighted the Prevention of Cruelty to Animals Act, 1960 which allows the killing of animals but prohibits cruelty to animals.
- According to the SC, there may be a point in saying that taking lives is permissible in certain circumstances but cruelty is not.

1.52 Decline in Maternal Mortality Ratio

Recently, the Office of the Registrar General's **Sample Registration System (SRS)** has released a special bulletin on **Maternal Mortality in India 2016-18.**

As per the **World Health Organization**, maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management.

- The Office of the Registrar General It is under the Ministry of Home Affairs.
- Apart from conducting the Population Census and monitoring the implementation of the Registration of Births and Deaths in the country, it has been giving estimates on fertility and mortality using the **Sample Registration System (SRS).**
- SRS is the largest demographic sample survey in the country that among other indicators provide direct estimates of maternal mortality through a nationally representative sample.
- **Verbal Autopsy (VA)** instruments are administered for the deaths reported under the SRS on a regular basis to yield a cause-specific mortality profile in the country.

Key Points

Maternal Mortality Ratio of the Country:

- MMR has declined to **113 in 2016-18 from 122 in 2015-17 and 130 in 2014-2016.**
- MMR is defined as the number of maternal deaths during a given time period per **1,00,000** live births during the same time period.
- The target **3.1 of Sustainable Development Goals (SDGs)** set by the **United Nations** aims at reducing the global maternal mortality ratio to less than **70 per 1,00,000** live births.
- **MMR of Various States:**

- Assam (215), Uttar Pradesh (197), Madhya Pradesh (173), Rajasthan (164), Chhattisgarh (159), Odisha (150), Bihar (149), and Uttarakhand (99).
- The southern States registered a lower MMR — Karnataka (92), Andhra Pradesh (65), Tamil Nadu (60), Telangana (63) and Kerala (43).

Government Initiatives:

- **Janani Suraksha Yojana** under the **National Health Mission** to link cash assistance to institutional deliveries.
- The **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** provides a fixed day for assured, comprehensive and quality antenatal care free of cost to pregnant women on **9th of every month.**
- **Pradhan Mantri Matru Vandana Yojana and LaQshya Guidelines.**

1.53 NTPC Enters Pact with NIIF To Explore Business Opportunities in India

- Recently, the **National Thermal Power Corporation Limited (NTPC Ltd.)** has entered into a **Memorandum of Understanding (MoU)** with the **National Investment and Infrastructure Fund (NIIF),** acting through the **National Investment and Infrastructure Fund Limited (NIIFL).**
- It will explore opportunities for investments in areas like renewable energy (RE), power distribution among other areas of mutual interest in India.

Key Points

- **NTPC Ltd.** is a central **Public Sector Undertaking (PSU)** under the Ministry of Power.
- It is India's largest energy conglomerate with roots planted way back in **1975** to accelerate power development in India.
- Aim: To provide reliable power and related solutions in an economical, efficient and environment-friendly manner, driven by innovation and agility.
- It became a Maharatna company in **May 2010.**
- It is located in **New Delhi.**

Few Recent Initiatives:

- Creation of public charging infrastructure in various cities and battery charging and swapping stations for electric 3-wheelers have been commissioned.
- Providing electric buses to state/city transport undertakings. For example, e-bus solutions for Andaman and Nicobar Administration are under implementation.
- Launch of its new project involving hydrogen **Fuel Cell Electric Vehicles (FCEV) to run in Delhi and Leh.**

1.54 ICAR celebrated 92nd foundation day on 16th July 2020

- **Indian Council of Agricultural Research (ICAR)** celebrated its **92nd foundation day on 16th July 2020.**

Key Points

- The **Indian Council of Agricultural Research (ICAR)** was established on **16 July 1929** as a registered society under the **Societies Registration Act, 1860.**
- It is an autonomous organisation under the **Department of Agricultural Research and Education (DARE),Ministry of Agriculture and Farmers Welfare, Government of India.**
- **It is headquartered at New Delhi.** With 102 ICAR institutes and 71 agricultural universities spread across the country this is one of the largest national agricultural systems in the world.
- It is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the production of foodgrains by **5.6** times, horticultural crops by **10.5** times, fish by **16.8** times, milk by **10.4** times and eggs by **52.9** times since **1950-51 to 2017-18.**

1.55 DHI launched five platform e-portals to promote innovations and product development

- **Department of Heavy Industry (DHI), Government of India (GoI),** has launched **five platform e-portals** that are developed by organizations namely **BHEL** for power sector equipment, HMT for machine tools, **CMFTI** for **manufacturing technology, ICAT and ARAI** for the automotive sector.
- The portal aims to promote innovation, Research, and development (R&D) and product development in India for various sectors.
- The e-portals where such technology development, information exchange, and innovation can be facilitated.

Highlights:

- The aim is to create an ecosystem that will bring solution seekers and problem solvers together include, including industry, academia, research institutes, start-ups, professionals, and experts.
- ICAT is developing a technology platform for the automotive industry called **Automotive Solutions Portal for Industry, Research, and Education (ASPIRE).**
- The main objective of the e-portal is to facilitate the Indian Automotive Industry to become self-reliant by assisting in innovation and adoption of global technological advancements by bringing together the stakeholders from various associated avenues.
- The activities include R&D, Technological Innovations, Technical and Quality Problem Resolution for the industry, Manufacturing and Process Technology Development, hosting Challenges for Technology Development, Product Technology Development, and also conducting Market Research and Technology Surveys for identifying the trends in the Indian auto industry.

- The e-portal will help to bring together the various stakeholders from the Indian auto industry, providing the necessary impetus for ushering the industry into the future with combined efforts. It will bring together the automotive **original equipment manufacturer (OEM),Tier 1 Tier 2 & Tier 3 companies, R&D institutions, and academia (colleges & universities)** on matters involving technology advancements.

1.56 Centre launched PM SVANidhi to bring Microcredit facility for street vendors at their door steps

- **Secretary Shri Durga Shanker Mishra, Ministry of Housing and Urban Affairs**, has launched the **Mobile Application of PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)** on **17 July 2020.**

- The aim is to provide a user-friendly digital interface for **Lending Institutions (LIs)** and their field functionaries for sourcing and processing loan applications of street vendors under the Scheme.

PM SVANidhi Mobile App:

- **PM SVANidhi Mobile App** aims to boost the use of **digital technology and will enable field functionaries of LIs** including **Banking Correspondents (BCs) and Agents of Non-Banking Financial Companies (NBFCs)/ Micro-Finance Institutions (MFIs),** who have proximity with the street vendors, to ensure maximum coverage of the Scheme.

- The App is expected to give impetus to the implementation strategy of the Scheme besides promoting paper-less digital access of micro-credit facilities by the Street Vendors.

- The App has all the features similar to the Web Portal of PM SVANidhi, which was launched on **June 29, 2020,** added with the feature of easy portability.

PM SVANidhi:

- PM SVANidhi scheme was launched by the Ministry of Housing and Urban Affairs (MoHUA), on **1 June 2020**, for providing affordable Working Capital loan to street vendors to resume their livelihoods that were affected due to COVID-19 pandemic.

- This scheme targets to benefit over **50 lakh** Street Vendors in urban areas including those from surrounding peri-urban/ rural areas. Under the scheme, the beneficiaries (vendors) can avail of a working capital loan of up to Rs.10,000.

- The loan amount is repayable in monthly installments in the tenure of one year. On timely/ early repayment of the loan, an interest subsidy at **7%** per annum will be credited to the bank accounts of beneficiaries through **Direct Benefit Transfer (DBT)** on a quarterly basis

1.57 Concern Over Imports of Small Arms

- Recently, the **domestic small arms manufacturers** have expressed their concern over continuing imports of small arms by the **Government of India.**

Key Points

No Big Orders for Domestic Manufactures:

- In the last few years, several Indian companies have invested in the small arms segment. The government also opened up the ammunition sector to the private sector, given the large requirement of small arms.

- The **Government of India** has opened up the **Foreign Direct Investment (FDI)** up to **74%** and on a case to case basis it is even **100%.**

- The Indian companies are capable of making small arms with over **50%** indigenous content and can also match the price and timelines.

- However, in dearth of any major order, the Indian companies are now looking for smaller orders from police and **Central Armed Police Forces (CAPF).**

- Further, Indian companies are also not considered for deals through **Fast Track Procurement (FTP),** which is limited to foreign vendors currently.

Small Arms Import:

- Recently, the Indian Army has ordered **72,400 SIG-716** assault rifles from Sig Sauer of the U.S.A for the second time.

- The Army has been attempting to replace the indigenous **IndianNational Small Arms System (INSAS)** rifles with a modern rifle.

- Earlier, in **February 2019**, the **Defence Ministry** procured **72,400 SIG-716** assault rifles from Sig Sauer of the U.S.A through Fast Track Procurement (FTP), most of which were for the Army.

- The remaining demand of over **7 lakh** rifles was to be met through the licensed manufacture of Russian **AK-203** rifles in India through a joint venture with the **Ordnance Factory Board (OFB).** However, the final deal has been stuck over the issue of pricing.

Demand of Domestic Manufactures:

- They are asking to give domestic companies the same level playing field as foreign companies to showcase their products and support Make in India.

1.58 <u>Govt announces norms for contributions by individuals, institutions to NDRF</u>

- The **Central Government** has allowed contributions from any person or institution in the **National Disaster Response Fund (NDRF)** as per **Section 46(1)(b)** of the **Disaster Management (DM) Act, 2005.**

Key Points

Formation:

- **National Calamity Contingency Fund (NCCF)** was renamed as **National Disaster Response Fund (NDRF)** with the enactment of the **Disaster Management Act in 2005.**

- It is defined in **Section 46of the Disaster Management Act, 2005 (DM Act).**
- It is placed in the **"Public Account"of Government of India** under **"reserve funds not bearing interest".**
- **Public Accounts:** It was constituted under **Article 266 (2) of the Constitution**. It accounts for flows for those transactions where the government is merely acting as a banker eg. provident funds, small savings etc. These funds do not belong to the government and have to be paid back at some time.
- Expenditures from it are not required to be approved by the Parliament.

Role:

- It is managed by the Central Government for meeting the expenses for emergency response, relief and rehabilitation due to any threatening disaster situation or disaster.
- It supplements the **State Disaster Response Fund (SDRF)** in case of a disaster of severe nature, provided adequate funds are not available in the SDRF.
- SDRF is the primary fund available with the State governments for responses to notified disasters to meet expenditure for providing immediate relief.
- The Centre contributes **75%** of the SDRF allocation for general category States and Union Territories, and **90%** for special category States/UTs (northeast States, Sikkim, Uttarakhand, Himachal Pradesh, and Jammu & Kashmir).
- **Financing:** Financed through the levy of a cess on certain items, chargeable to excise and customs duty, and approved annually through the Finance Bill.
- Currently, a **National Calamity Contingent Duty (NCCD)** is levied to finance the NDRF and additional budgetary support is provided as and when necessary.
- NCCD is levied in the case of goods specified in the Seventh Schedule (goods manufactured or produced).
- Monitoring: Department of Agriculture and Cooperation under the Ministry of Agriculture and Farmer Welfare monitors relief activities for calamities associated with drought, hailstorms, pest attacks and cold wave/frost while rest of the natural calamities are monitored by the **Ministry of Home Affairs (MHA).**
- **Comptroller and Auditor General (CAG)** audits the accounts of NDRF.

1.59 Consumer Protection Act, 2019

- The new **Consumer Protection Act, 2019** came into force on **20th July 2020** and it will empower consumers and help them in protecting their rights through its various notified rules and provisions.
- The new act will be swift and less time consuming compared to the older Consumer Protection Act, 1986 in which single-point access to justice was given making it a time-consuming exercise.

- The old act provided for a three-tier consumer dispute redressal machinery at the **National (National Consumer Disputes Redressal Commission), State and District levels.**

Key Points

- The Consumer Protection Act, 2019 establishes the **Central Consumer Protection Authority (CCPA)** whose primary objective will be to promote, protect and enforce the rights of consumers.
- It is empowered to:
- Conduct investigations into violations of consumer rights and institute complaints/prosecution.
- Order recall of unsafe goods and services.
- Order discontinuance of unfair trade practices and misleading advertisements.
- Impose penalties on manufacturers/endorsers/publishers of misleading advertisements.
- Rules on E-commerce and Unfair Trade Practices: The government will notify the **Consumer Protection (E-commerce) Rules, 2020** under the Act whose broad provisions are given below.
- **E-commerce** entities are required to provide information to consumers, relating to return, refund, exchange, warranty and guarantee, delivery and shipment, modes of payment, grievance redressal mechanism, payment methods, security of payment methods, charge-back options and country of origin.
- These are necessary for enabling the consumer to make an informed decision at the pre-purchase stage.
- These platforms will have to acknowledge the receipt of any consumer complaint within **48 hours** and redress the complaint within one month from the date of receipt. They will also have to appoint a grievance officer for consumer grievance redressal.
- The **Consumer Protection (E-commerce) Rules, 2020** are mandatory and are not advisories.
- Sellers cannot refuse to take back goods or withdraw services or refuse refunds, if such goods or services are defective, deficient, delivered late, or if they do not meet the description on the platform.
- The rules also prohibit the e-commerce companies from manipulating the price of the goods or services to gain unreasonable profit through unjustified prices.

Product Liability:

- A manufacturer or product service provider or product seller will be held responsible to compensate for injury or damage caused by defective product or deficiency in services
- Basis for product liability action:
- Manufacturing defect.
- Design defect.
- Deviation from manufacturing specifications.
- Not conforming to express warranty.

- Failing to contain adequate instructions for correct use.
- Service provided-faulty, imperfect or deficient.
- Punishment for Manufacture or Sale of Adulterated/Spurious Goods:
- In case of the first conviction, a competent court may suspend any licence issued to the person for a period of up to two years and in case of second or subsequent conviction, may cancel the licence permanently.

Alternate Dispute Resolution Mechanism of Mediation:

- A complaint will be referred by a Consumer Commission for mediation, wherever scope for early settlement exists and parties agree for it.
- The mediation will be held in the Mediation Cells which will be established under the aegis of the Consumer Commissions.
- There will be no appeal against settlement through mediation.
- Simplification of the Consumer Dispute Adjudication Process:
- Empowering the State and District Commissions to review their own orders.
- Enabling a consumer to file complaints electronically and in consumer commissions that have jurisdiction over the place of his residence.
- Video-conferencing for hearing and deemed admissibility of complaints if the question of admissibility is not decided within the specified period of 21 days.

Other Rules and Regulations:

- As per the Consumer Disputes Redressal Commission Rules, there will be no fee for filing cases up to **Rs. 5 lakh.**
- The credit of the amount due to unidentifiable consumers will go to the **Consumer Welfare Fund (CWF).**
- State Commissions will furnish information to the Central Government on a quarterly basis on vacancies, disposal, the pendency of cases and other matters.
- Apart from these general rules, there are Central Consumer Protection Council Rules, provided for the constitution of the **Central Consumer Protection Council (CCPC).**
- It will be an advisory body on consumer issues, headed by the Union Minister of Consumer Affairs, Food and Public Distribution with the **Minister of State as Vice Chairperson and 34 other members** from different fields.
- It will have a three-year tenure and will have Minister-in-charge of consumer affairs from two States from each region- **North, South, East, West, and North-East Region.**

1.60 Non-personal Data generated in India

- Recently, a **government** committee headed by **Infosys co-founder Kris Gopalakrishnan** has suggested that non-personal data generated in India be allowed to be harnessed by various domestic companies and entities.

- The committee has also suggested a separate national legislation and a separate authority to oversee non-personal data.

- It also recommended mandatory sharing of non-personal data, as it may be useful for Indian entrepreneurs to develop new and innovative services or products to benefit citizens.

Key Points

Definition:

- Non-personal data is any set of data which does not contain personally identifiable information. This means that no individual or living person can be identified by looking at such data.

- For example, order details collected by a food delivery service will have the name, age, gender, and other contact information of an individual, it will become non-personal data if the identifiers such as name and contact information are taken out.

- The government committee, which submitted its report has classified non-personal data into three main categories, namely public non-personal data, community non-personal data and private non-personal data.

Public, Community, and Private Non-personal Data:

- **Public non-personal data:** It involves all the data collected by the government and its agencies during execution of all publicly funded works.

- **Ex:** census, data collected by municipal corporations on the total tax receipts.

- **Community non-personal data:** It involves any data identifiers about a set of people who have either the same geographic location, religion, job, or other common social interests.

- **Ex:** The metadata collected by ride-hailing apps, telecom companies, electricity distribution companies.

- **Private non-personal data:** It can be defined as those which are produced by individuals which can be derived from application of proprietary software or knowledge.

- **Ex:** data generated by companies like Google, Amazon etc.

- **Importance of Non-personal Data:**

- These data sets will help to map consumer biases and ensure targeted delivery of services. It will unlock the doors of economic value and innovation in the country.

Sensitivity of Non-personal Data:

- Unlike personal data, non-personal data is more likely to be in an anonymised (without particulars or details) form.

- However, in certain categories such as data related to national security or strategic interests such as locations of government laboratories or research facilities, even if the data provided in anonymised form can be dangerous.
- Possibilities of such harm are obviously much higher if the original personal data is of a sensitive nature.
- Therefore, the non-personal data arising from sensitive personal data may be considered as sensitive non-personal data.

Issues involved:

- The data sets will heavily favour big tech companies.
- Only big tech companies possess the capital and infrastructure to create such large volumes of data. Others will find it difficult to match the capabilities of these technology giants.
- As a signatory to **Trade-Related Aspects of Intellectual Property Rights (TRIPS),** India extended copyright protection to computer databases in **1999**.
- In such a scenario, there is a challenge of demarcation between non-personal data that cannot be shared, and non-copyright non-personal data that can be used as a public resource.
- There is no clarity over the grievance redressal mechanism in the committee's report.

1.61 Appointment of Government Servants as Gram Panchayat Administrator

- Recently, the **Bombay High Court** passed an interim order directing that a government servant of the local authority be appointed as an **Administrator of gram Panchayats in Maharashtra.**
- It is for the **15,000** panchayats where the terms of these officers have ended or would be ending.
- These administrators include **Sarpanch, Secretary of the Panchayats and Gram Sevaks.**

Key Points

- **Petition Against Recent Decisions:** The order came after petitions were filed against a recent **Government Resolutions (GR)** issued by the **State Rural Development Department and Maharashtra Village Panchayat (Amendment) Ordinance, 2020.**
- Through these, the Maharashtra government ordered appointment of administrators to all gram panchayats by **zilla parishad chief executive officers (CEO)** in consultation with their respective district ministers.
- The resolution and ordinance were challenged on various grounds related to the appointment of private individuals as administrators of gram panchayats.
- It also challenged the section 151 of the Maharashtra Village Panchayats Act by allowing appointment of administrators in case the **State Election Commission (SEC)** could not hold elections due to a natural calamity, pandemic, financial emergency or administrative emergency.

High Court's Argument:

- **Questioned Private Appointments:** The Court ordered that the administrator to be appointed, should be a government servant or an officer from the local authority.

- If not available and the appointment of a private individual is to be made, then each such order shall record the reasons because of which such officer was not available.

- The criteria that administrators have to be "a resident of the village and on the voters' list" is directory, not mandatory in nature.

- **Local Authority Officers:** The court emphasised that local authority offices should be the first choice for appointment as an administrator.

- **Impact on Local Governance:** The Court admitted that working of the gram panchayat will be affected if the administrator is not appointed, however it also emphasised the need to address the concerns regarding the appointment of the private individual.

- According to the Court private individuals appointment is not warranted under law and such mass appointments will have a lasting adverse impact on the local governance in terms of efficiency, impartiality and effectiveness of the work.

State Government's Argument:

- **Urgent Need:** It stated that there is an urgent need for administrators to run the Panchayats as pandemic has halted the election process.

- **Overburdened Officers:** There are a large number of Gram Panchayats in the State and the government servants are already overburdened. So, it is difficult to appoint them as administrators.

Madhubani Paintings

- Recently, artists from **Madhubani district of Bihar** became famous for making masks with hand-painted **Madhubani motifs.**

- Motif is a decorative image or design, especially a repeated one forming a pattern.

Key   Points

Origin: Madhubani painting has its origins in **Mithila region of Bihar.**

- The painting is one of the oldest and most famous Indian art forms which is also practised in **Nepal**.

- Traces of Madhubani art can also be noticed in the Ramayana, the Indian epic.

- It is also known as **Mithila or Madhubani art.**

Characteristics: These paintings are popular because of their tribal motifs and use of bright earthy colours.

- Traditionally the women of the village drew these paintings on the walls of their dwelling, as a demonstration of their feelings, hopes, and ideas.

- Today men are also involved to meet the demand.

Style: It includes **geometrical patterns, floral, animal and bird motifs.**

Colours: The colours used in paintings comprise natural extracts from plants and other natural sources.

E.g.: Black colour is obtained by mixing soot with cow dung, blue from indigo, white from rice powder, and orange from palasha flowers, etc.

- The colours are applied flat with no shading and no empty space is left.
- These are usually dark and bright with pigments like lampblack (obtained from coal) and ochre (earthy yellow pigment).
- These paintings are not made with modern brushes but rather with twigs, matchsticks, and fingers.
- But now artists use brushes, nib-pens and synthetic colours as well to paint.

Themes: It is based on the mythological characters which depict the life of Hindu deities like Krishna, Rama, Lakshmi, Shiva, Durga, and Saraswati.

- The designs widely painted are of Tulasi plant, court scenes, wedding scenes, social happenings etc.
- Also, heavenly bodies like the Sun and the Moon often form the centrepiece of paintings.

Eminent Artists: Karpuri Devi, Mahalaxmi and Dulari.

1.62 National Broadcasting Day is observed on 23 July

- **National Broadcasting Day** was observed on **23 July**. The first-ever radio broadcast in India went on air from the Bombay Station **on 23 July 1927.**
- The broadcasting was done under the then private company, the **Indian Broadcasting Company (IBC).**

Radio Broadcasting:

- **Radio broadcasting** began in the year **1923**. It is under the radio club of the **Bombay** initiative. **All India Radio** is officially known as **AkashVani** since **1956**. It is a division of **Prasar Bharati.**
- It was established in the year **1930**. On **8 June 1936**, the **Indian State Broadcasting Service (ISBS)** became **All India Radio (AIR).** Currently, AIR is one of the largest public broadcasting organisations in the world. It is owned by **Prasar Bharati.**

Prasar Bharati:

- **Prasar Bharati** is India's largest public broadcasting agency. It is a statutory autonomous body set up by an Act of parliament and compromises the **Doordarshan Television Network** which was earlier media units of the Ministry of Information and Broadcasting.

1.63 Government Order for PC of Women in Army

- Recently, the **Ministry of Defence** has issued the formal Government Sanction Letter for grant of **Permanent Commission (PC) to Women Officers** in the **Indian Army.**

Key Points

- The order specifies grant of PC to **Short Service Commissioned (SSC) Women Officers** in the remaining 8 streams of the Indian Army.
- These **10 streams** include Army Air Defence (AAD), Signals, Engineers, Army Aviation, Electronics and Mechanical Engineers (EME), Army Service Corps (ASC), Army Ordnance Corps (AOC), Intelligence Corps, Judge and Advocate General (JAG) and Army Educational Corps (AEC).
- Before the order, women officers are allowed a PC in the JAG and AEC.
- In anticipation, the Army Headquarters had set in motion a series of preparatory actions for the conduct of the **Permanent Commission Selection Board (PCSB)** for the eligible women officers.
- The Selection Board will be scheduled as soon as all eligible SSC Women Officers exercise their option and complete requisite documentation.

Issue:

- Under the SSC scheme, women were commissioned into the Army for a period of 10 years, extendable up to 14 years.
- Women were, however, restricted to roles in specified streams such as **Army Education Corps, Corps of Signals, Intelligence Corps and Corps of Engineers.** These specified streams excluded combat arms such as infantry and armoured corps.
- While male SSC officers could opt for permanent commission at the end of 10 years of service, this option was not available to women officers. Women officers were kept out of any command appointment and could not qualify for a government pension, which starts only after 20 years of service as an officer.

Background:

- The case was first filed in **the Delhi High Court by women officers** in **2003** and had received a **favourable order in 2010.**
- However, the order was never implemented and was challenged in the **Supreme Court** by the government.
- In its appeal, the government cited **"physical"** and **"physiological limitations"** in granting command positions to women.
- In the **February 2019 policy statement**, the Government endorsed the PC for SSC women officers in 10 streams of the '**Combat Support Arms'** and **'Services' sections.**
- However, it was said that the women officers would not be offered any command appointments, and would serve only in staff posts.
- In **February 2020,** the SC held that there is a need for an administrative will and **'change of mindset'** and directed the government to grant PC and command postings in all services other than combat to women Army officers.

Permanent Commission for Women

- The Ministry of Defence has taken steps to ensure implementation of the grant of PC to women officers and all three Services have allowed permanent recruitment of women in select streams including medical, education, legal, signals, logistics and engineering.

- **Indian Air Force:** Women Officers recruited through the SSC in the IAF have the option of seeking PC in all streams except the flying branch.

- **Indian Navy:** In **March 2020**, the SC cleared the way for PC to women in Indian Navy as well.

- The Navy has allowed PC of women in a host of departments such as logistics, naval designing, air traffic control, engineering and legal.

- **Indian Army:** Women officers are granted PC in the Indian Army in all the ten branches where women are inducted for SSC.

1.64 Rajya Sabha Members Facing Criminal Charges

- According to an analysis by the **Association for Democratic Reforms (ADR),** about **24%** of the sitting **Rajya Sabha** members have declared criminal cases against themselves.

Key Points

- **Data Analysis:** Analysis of **229** of the **233** Rajya Sabha seats showed that **54 MPs** had declared criminal cases.

- Among the newly-elected representatives **28 or 12%** had declared serious criminal cases.

- It also found out from their self-sworn affidavits that **89%** have declared assets estimated at over **Rs. 1 crore.**

- **17th Lok Sabha:** According to the finding of Association of Democratic Reforms, about **43%** of members elected to **17th Lok Sabha** are facing criminal charges in court of law, while 84% have self-declared assets worth more than **Rs. 1 crore.**

- This is the highest number of members of parliament facing serious criminal charges like **rape, murder and kidnapping, since 2004.**

- ADR is an Indian non-governmental organization established in **1999** situated in **New Delhi.**

- With **National Election Watch (NEW),** ADR is striving to bring transparency and accountability in Indian politics and reduce the influence of money and muscle power in elections.

Reasons:

- **Lack of Political Will:** Section 8 Ac the Representation of Peoples (RP) Act, 1951 disqualifies a person convicted with a sentence of two years or more from contesting elections. But those under trial continued to be eligible to contest elections.

- Therefore, in order to curb criminalisation of politics, Parliament needs to bring an amendment in the Act.

- **Use of Muscle and Money Power**: Candidates with serious criminal records seem to do well despite their bad public image, largely due to their ability to finance their own elections and further fund their respective parties for different election activities.
- **Vote Bank:** Criminals are being wooed by political parties and given cabinet posts because their muscle and money fetches crucial votes.
- **Narrow Self-interests of Voters:** Some voters tend to view such candidates through a narrow prism of being able to represent their community interests by hook or by crook.
- **Lack of Choices:** Sometimes voters are left with no options, as all competing candidates have criminal records.

Consequences:

- **Ineffective Democracy:** It affects the efficacy of the democratic process in delivering good governance as law breakers become law makers.
- **Culture of Violence:** It introduces a culture of violence in society and sets a bad precedent for the youth to follow.
- **Black Money:** It also leads to increased circulation of black money during and after elections, diluting probity in public life.

Election Commission's Recommendations:

- In **1997**, **Election Commission** directed all the **Returning Officers (ROs)** to reject the nomination papers of any candidate who stands convicted on the day of filing the nomination papers even if his sentence is suspended.
- It recommended that if a person is found guilty by a commission of Inquiry then he shall be disqualified from contesting elections.
- The **First Past The Post (FPTP) electoral system** shall be replaced by the 2-ballot system under which a candidate is declared elected from a territorial constituency on the basis of majority principle.
- If no one wins **50 percent** of the votes, all candidates except the top two are excluded and voters are asked to vote a second time. In the second round, the candidate who wins the most votes is elected.
- The **2-ballot system** will make winning elections very difficult for criminals as they will have to garner the widest possible support from the voters to get the majority votes.
- Along with the 2-ballot system, the negative vote shall also be introduced.

Other Measures:

- **Right to recall:** It confers the power on the registered voters in a constituency to recall their elected representatives from the house on the ground of non-performance. It could empower the people at grassroot level. The elected representative could be made truly accountable to the people.

- **State Funding of Elections:** It means the government would extend financial assistance to the political parties to contest elections in part or in full, in kind or in cash.

- Various committees (Dinesh Goswami, Inderjeet Committee) on the electoral reforms have recommended for state funding of elections.

- State funding of elections will curb use of black money to a large extent and thereby will have a significant impact on limiting criminalization of politics.

1.65 Plea Bargaining

- Several citizens of various countries, who were accused of violating visa conditions and government guidelines following the Covid-19 pandemic, have obtained release from court cases in recent days by means of plea bargaining.

Key Points

Plea Bargaining:

- It refers to a person charged with a criminal offence (accused) negotiating with the prosecution for a lesser punishment than what is provided in law by pleading guilty to a less serious offence.

- It primarily involves pretrial negotiations between the accused and the prosecutor. It may involve bargaining on the charge or in the quantum of sentence.

Provision in India:

- **Plead Guilty:** There has always been a provision in the Code of Criminal Procedure (CrPC) for an accused to plead 'guilty' instead of claiming the right to a full trial, but it is not the same as plea bargaining.

- **Plea Bargaining:** Plea bargaining was introduced in 2006 as part of a set of amendments to the **CrPC as Chapter XXI-A,** containing **Sections265A to 265L.**

- Cases for which the plea bargaining is allowed are limited.

- Only someone who has been charged for an offence that does not attract the death sentence, life sentence or a prison term above seven years can make use of the scheme under Chapter XXI-A. It is also applicable to private complaints of which a criminal court has taken cognisance.

- Other categories of cases that cannot be disposed of through plea bargaining are those that involve offences affecting the **"socio-economic conditions"** of the country, or committed against a woman or a child below the age of **14**.

Procedure in India:

- The plea bargaining process can be initiated only by the accused. This provision is different from the one in other countries like the USA where the prosecutor plays a key role in bargaining with the suspected offender.

- The accused will have to apply to the Court for invoking the benefit of bargaining.

- Thereafter, the court may permit the prosecutor, the investigating officer and the victim (if any) to hold a meeting for a **"satisfactory disposition of the case".**
- Once mutual satisfaction is reached, the Court formalises the arrangement by way of a report signed by all the parties and the presiding officer.
- The accused may be sentenced to a prison term that is half the minimum period fixed for the offence. If there is no minimum term prescribed, the sentence should run up to one-fourth of the maximum sentence stipulated in law.
- The outcome may also involve payment of compensation and other expenses to the victim by the accused.

Arguments in favour:

- As per the Justice Malimath Committee on reforms of the criminal justice system (formed in 2000):
- This ensures speedy trial, ends uncertainty over the outcome of criminal cases, saves litigation costs and relieves the parties of anxiety.
- It would also have a dramatic impact on conviction rates.
- It is common in the USA, and has been a successful method of avoiding protracted and complicated trials. As a result, conviction rates are significantly high there.
- Prolonged imprisonment of undertrials without any progress in the case for years and overcrowding of prisons are also other factors that may be cited in support of reducing pendency of cases and decongesting prisons through plea bargaining.
- It may help offenders make a fresh start in life.

Arguments against:

- People who are pushed to plea bargain are those who do not have the wherewithal to arrange for bail.
- Even courts are also very particular about the voluntary nature of the exercise, as poverty, ignorance and prosecution pressure should not lead to someone pleading guilty of offences that may not have been committed.
- The Judiciary in its earlier verdicts (especially before the introduction of the process) had disapproved of bargaining with offenders, and pointed out that lenient sentences could be considered as part of the circumstances of the case after a regular trial. Mere acceptance or admission of the guilt should not be a ground for reduction of sentence.
- Further, it may hamper the victim's right to fair trial, involvement of coercion by the investigating agencies and corruption in the process.
- Some argue that it is against Article 20 (3) of the Constitution which provides immunity to an accused against self-incrimination.

1.66 Bal Gangadhar Tilak birth anniversary on 23rd July

On **23rd July**, **India** paid tribute to **the freedom fighter and educationist Bal GangadharTilak on his birth anniversary.**

Key Points

- Birth: He was born on **23rd July 1856** in **Ratnagiri, Maharashtra.**
- **Freedom fighter and lawyer, Bal Gangadhar Tilak**, is also known as **Lokmanya Tilak.**

Educationist:

- **Founder of the Deccan Education Society (1884)** along with his associate **Gopal Ganesh Agarkar and others.**
- One of the founders of the **Fergusson College (1885) in Pune** through the **Deccan Education Society.**

Ideology:

- He was a devout Hindu and used Hindu scriptures to rouse people to fight oppression.
- Stressed on the need for self-rule and believed that without self-rule or swarajya, no progress was possible.
- **Slogan:** "Swaraj is my birthright and I shall have it!"
- A book 'Indian Unrest' written by Valentine Chirol, an English journalist, stated Tilak the 'father of Indian unrest'.
- Emphasised the importance of a cultural and religious revival to go with the political movements.
- Popularised the Ganesh Chaturthi festival in the Maharashtra region.
- Propounded the celebration of Shiv Jayanti on the birth anniversary of the monarch Chhatrapati Shivaji.
- **Political Life:** He was one of the earliest and the most vocal proponents of complete independence or swarajya (self-rule).
- Along with Lala Lajpat Rai and Bipin Chandra Pal, he was part of the Lal-Bal-Pal trio of leaders with extremist outlooks.
- Joined the Indian National Congress (INC) in 1890.
- **Surat Split:** It was the splitting of the INC into two groups - the Extremists and the Moderates - at the Surat session in 1907.
- **Reason:** The extremists wanted either Tilak or Lajpat Rai to be president, so when Rasbehari Ghose was announced as president, the extremist resorted to violence. Hence Surat Split happened.
- While extremists wanted to end the tyranny rule of British through protest, Moderates were aimed at administrative and constitutional reforms.

- The Extremist camp was led by Lal Bal and Pal and the moderate camp was led by Gopal Krishna Gokhle.

Contribution to Freedom Movement:

- Propagated Swadeshi movements and encouraged people to boycott foreign goods.

Indian Home Rule Movement:

- It was a movement in British India on the lines of Irish Home Rule movement.
- Started in **1916**, it is believed to have set the stage for the independence movement under the leadership of Annie Besant and Bal Gangadhar Tilak for the educated English speaking upper class Indians.
- All India Home Rule League: Founded by Tilak in April 1916 at Belgaum.
- It worked in **Maharashtra (except Bombay), the Central Provinces, Karnataka and Berar.**
- **Lucknow Pact (1916):** Between the INC headed by Tilak and All-India Muslim League led by Muhammad Ali Jinnah for hindu-muslim unity in nationalist struggle.
- **Jail:** Between **1908 and 1914**, he spent 6 years in **Mandalay Prison** for defending the actions of **revolutionaries Khudiram Bose and Prafulla Chaki.**
- **Khudiram Bose and Prafulla Chaki** had tried to assassinate the District Judge, Mr. Kingsford by throwing bombs at the carriage in which he was supposed to travel.
- **Newspapers:Weeklies Kesari (Marathi) and Mahratta (English)**
- **Books:Gita Rhasya and Arctic Home of the Vedas.**
- **Death:** He died on **1st August 1920.**

1.67 Chandra Shekhar Azad birth anniversary on 23rd July

- On **23rd July**, **India** paid tribute to the **freedom fighter Chandra Shekhar Azad on his birth anniversary.**

Key Points

- **Birth:** Azad was born on **23rd July 1906 in the Alirajpur District of Madhya Pradesh.**
- **Early Life:** Chandra Shekhar, then a 15-year-old student, joined a Non-Cooperation Movement in December 1921. As a result, he was arrested.
- On being presented before a magistrate, he gave his name as **"Azad"** (The Free), his father's name as **"Swatantrata"** (Independence) and his residence as **"Jail".**
- Therefore, he came to be known as Chandra Shekhar Azad.
- Contribution to Freedom Movement:
- **Hindustan Republican Association:** After the suspension of the non-cooperation movement in **1922** by **Gandhi, Azad** joined **Hindustan Republican Association (HRA).**

- HRA was a revolutionary organization of India established in **1924 in East Bengal** by**Sachindra Nath Sanyal, Narendra Mohan Sen and Pratul Ganguly**as an offshoot of **Anushilan Samiti.**
- **Members:** Bhagat Singh, Chandra Shekhar Azad, Sukhdev, Ram Prasad Bismil, Roshan Singh, Ashfaqulla Khan, Rajendra Lahiri.
- **Kakori Conspiracy:** Most of the fund collection for revolutionary activities was done through robberies of government property. In line with the same, Kakori Train Robbery near Kakori, Lucknow was done in 1925 by HRA.
- The plan was executed by Chandra Shekhar Azad, Ram Prasad Bismil, Ashfaqulla Khan, Rajendra Lahiri, and Manmathnath Gupta.
- **Hindustan Socialist Republican Association:** HRA was later reorganised as the Hindustan Socialist Republican Army (HSRA).
- It was established in **1928** at **Feroz Shah Kotla in New Delhi** by Chandra Shekhar Azad, Ashfaqulla Khan, Bhagat Singh, Sukhdev Thapar and Jogesh Chandra Chatterjee.
- HSRA planned the shooting of **J. P. Saunders,** a British Policeman at Lahore in **1928** to avenge the killing of Lala Lajpat Rai.
- **Death:** He died at **Azad Park in Allahabad on 27th February 1931.**

1.68   Indian Railways to RFID Tag all wagons by 2022 December

- **Indian Railways** is planning to **radio-frequency identification tags (RFID) Tag** all wagons by the end of **2022**. Indian Railways is expected to complete this process of fitting RFID in all the wagons by **December 2022.**

Highlights:

- The RFID tags will be used to track all wagons.
- Around **23,000 wagons** have been covered under the RFID project.
- The Project is still in progress amid the COVID-19 pandemic.
- Currently, the Indian Railway is maintaining such data manually that leaves scope for errors.
- The RFID devices will be easier for the railways to know the exact position of all the wagons, locomotives, and coaches.
- The RFID tag will be fitted in the rolling stock and the trackside readers will be installed at stations and key points along the tracks to read the tag from a distance of about two meters and transmit the wagon identity over a network to a central computer.
- The moving wagon can be identified and its movement will be tracked.
- The issue of shortage of wagons, coaches, and locomotives is expected to be addressed in a more transparent and expeditious manner by fixing the RFID Tag.

1.69   Audit Online Application for Local Bodies

- The **Ministry of Panchayati Raj** has decided to conduct an online audit of accounts of about **50,000 Gram Panchayats (GPs)** through its application **AuditOnline**during the current financial year (2020-21). This will be the first such exercise.

Key Points

- **Online Audit of Accounts: 50,000 GPs'** books of accounts for **2019-20** will be audited with a focus on how they used **Finance Commission (FC) grants.**

- **50,000** is equivalent to the **20%** of the estimated **2.5 lakh GPs** across the country.

- In the next financial year (2021-22), the exercise will be scaled up to cover all the GPs.

- The **15th FC** recommended an allocation of **Rs. 60,750 crore** for rural local bodies during **2020-21**, almost the same as last year under the **14th FC.**

AuditOnline:

- It is an application developed as a part of **Panchayat Enterprise Suite (PES)** under e-panchayat **Mission Mode Project (MMP)** initiated by the **Ministry of Panchayati Raj (MoPR).**

- It facilitates the financial audit of accounts at all the three levels of Panchayats viz District, Block and Village Panchayats, **Urban Local Bodies (ULB) and Line department by Auditors.**

- It not only facilitates the online and offline audit of accounts but also serves the purpose of maintaining the past audit records of the auditee with associated list of the auditors and audit team involved in the audit.

- Also the information remains available in public domain and for usage by other PES applications.

Benefits of Online Audit:

- Online audit with the option of physical verification assumes greater relevance given the pandemic and the lockdown.

- As some works (done under other schemes) are geo-tagged, auditors can do a sample check by visiting the site.

- Further, it ensures accountability in the utilisation of funds at the ground level.

- In the offline system, timely availability of records is a major issue. However, in the online system, the auditors will be able to see online all documents related to work approval and payments. They can even ask for additional documents such as photographs as a proof of work done.

- Moreover, an online audit can be monitored at all levels: district-state-centre.

Challenge:

- More than **15%** of Panchayats in several states have not completed their books of accounts for the year 2019-20.

- Completing and closing the accounts is a prerequisite for the online audit.

- While **100%** of Panchayats in Maharashtra and Haryana have closed their **2019-20** accounts, no Panchayat has done this in Arunachal Pradesh and Bihar. States like Punjab and Himachal Pradesh are also low performers.

1.70 Panchayat Enterprise Suite

- The **Ministry of Panchayati Raj (MoPR)** has undertaken **e-Panchayat Mission Mode Project (e-Panchayat MMP)** with a view to introduce and strengthen **e-Governance in Panchayati Raj Institutions (PRIs)** across the country and build associated capacities of the PRIs for effective adoption of the e-Governance initiative.

- Under e-Panchayat, a suite of **11 Core** Common Applications has been deployed that address nearly the entire spectrum of Panchayats' functioning viz. from internal core functions such as **Planning, Monitoring, Budgeting, Accounting, Social Audit etc.** to citizen service delivery operations like issue of certificates, licenses etc.

Refusal of Rajasthan Speaker's Plea by Supreme Court

- Recently, the **Supreme Court (SC)** has refused **Rajasthan Assembly Speaker's** plea to stop the **State's High Court** from deciding the validity of the anti-defection notices.

- Earlier, the Speaker had issued notice to the 19 dissident Congress MLAs of the ruling Party on the ground of plotting conspiracy to bring down the government.

Key Points

Background:

- The **19 rebel MLAs of Rajasthan's ruling party (Congress)** have filed a petition before the **High Court** challenging the disqualification notices issued to them by the **Assembly Speaker under Anti Defection Law.**

High Court's stand:

- The High Court directed the speaker to defer action on the disqualification notices by stating that he cannot decide the matter.

- It also directed him to extend the time to file replies to disqualification notices.

Speaker's argument:

- **Unconstitutional:** Seeking a stay on the High Court's direction, the speaker stated that it is unconstitutional and in derogation of the powers of the Speaker under the Constitution.

- **Non Intervention of HC:** Giving the reference to the **KihotoHollohan versus Zachillu and Others, 1992** he argued that his decision is totally in the domain of the Speaker to decide on disqualification of members, and no court can intervene in between.

- He also stated that HC has no jurisdiction to ask him to defer the proceedings.

- The proceedings under the **Tenth Schedule** before the Speaker are proceedings of the **Legislature** and as such cannot be interfered with, as envisaged under **Article 212** which has been read with **para 6(2) of the Tenth Schedule.**

- **Show Cause Notice:** He said he had only issued show cause notices to the MLAs on a complaint filed by the Congress chief.

- Show cause notice means an order that requires a party to explain why a certain course of action should not be taken against it. If the party cannot convince or fails to appear, that course of action is taken.

- The notice was an opportunity for the MLAs to explain their conduct.

Supreme Court's argument:

- **Voice of Dissent:** SC has questioned about shutting down a legislator's **"voice of dissent"** with the threat of disqualification in a democracy.

- It asked whether expressing dissent amounts to voluntarily giving up the party membership under **Paragraph 2(1)(a) of the Tenth Schedule of the Constitution** and inviting anti-defection proceedings.

- **Speaker as a Tribunal:** It further stated that the Speaker is like a tribunal and he must not have acted with political intentions.

1.71 GoI launched online system to issue transit permits for Timber, Forest Produce

- The **Ministry of Environment** launched the **National Transit Pass System (NTPS),** an online system for issuing **transit permits for timber,bamboo,** and other forest produce. It was virtually inaugurated by the **Union Minister of Environment Prakash Javadekar.**

- The System will make the process of getting permits faster and without physically going to forest department offices. The pilot project will function in the states of Madhya Pradesh and Telangana for now.

National Transit Pass System (NTPS):

- The NTPS will enhance the seamless movement of forest produce.

- NTPS is a role-based and work-flow based application that is available on computers and mobile devices.

- The system will make the process of getting permits faster and without physically going to get the pass. It will save time and energy.

- Under NTPS, through mobile application e-pass will be issued for transit of forest produce.

- NTPS is aimed to bring ease of business and expedite issuance of transit permits for timber, bamboo and other minor forest produce without physically going to forest offices.

- NTPS will replace the manual paper-based transit system by online transit system and will bring in one permit for whole India for transit of timber, bamboo and other minor forest produce for ease of doing business.

1.72 Union Minister inaugurated World Class State of the Art Honey Testing Lab

- **Agriculture and Farmers' Welfare Minister Narendra Singh Tomar** inaugurated the **'World Class State of Art Honey Testing Laboratory'** in **Anand, Gujarat** through Video Conference.

- The laboratory was established by **National Dairy Development Board (NDDB)** with support of the **National Bee Board (NBB).** The move is in line with PM Narendra Modi's vision to bring sweet revolution in India.

Highlights:

- The establishment of Laboratory will encourage large number of famers for production and marketing of Honey and earn more profit in agriculture.

- NDDB has set-up this world-class lab based on the parameters notified by the **Food Safety and Standards Authority of India (FSSAI)** with all the facilities and developed the test methods/protocols, which have been accredited by **National Accreditation Board for Testing and Calibration Laboratories (NABL)**. Now, FSSAI has notified new standards of **Honey, Bee Wax and Royal Jelly.**

- Centre aims to increase the income of farmers and the Bee-keeping enterprise has to play a major role in supplementing the income of farmers.

- Government of India is taking several activities to promote beekeeping under **Mission on Integrated Development of Horticulture (MIDH)**, National Mission for Beekeeping being implemented through the **National Bee Board and the States.**

- GoI also aims to increase bee colonies, honey bee production, processing, marketing and export, which will significantly contribute in GDP and boosting the rural economy.

1.73 India Report on Digital Education 2020:

The report highlights the central Initiatives State/UT Governments that managed the critical task of providing digital education at the doorstep of the students.

The report include the initiatives that were taken to facilitate remote learning and education for all by taking schools to the students.

The report stated the quality digital education that has acquired the new urgency in the present context of globalization.

To improve Digital education, the Ministry of Human Resource Development has initiated many projects to assist teachers, scholars, and students including:

- DIKSHA platform

- Swayam Prabha TV Channel

- Online MOOC courses

- On Air – Shiksha Vani

- DAISY by NIOS for differently-abled

- e-PathShala

- National Repository of Open Educational Resources (NROER) to develop e-content and energized books

- Telecast through TV channels

- E-learning portals

- Webinars, chat groups

- Distribution of books and other digital initiatives along with State/ UT Governments

- On numerous occasions, the courts have also clarified that when the majority of the ruling party is in question, a floor test must be conducted at the earliest available opportunity.

- However in Rajasthan's case, despite requests from the chief minister, who is enjoying the majority, the Governor has used discretionary power twice and returned requests to call for a session.

1.74 **Indian Railways, SBI Card launch Contactless Credit Card on RuPay Platform**

- **IRCTC of Indian Railways and SBI Card** has launched **Co-branded Contactless Credit Card on RuPay Platform.** It is in line with **Aatma Nirbhar Bharat, Digital India and Make in India mission**.

- The new credit card is dedicated to the service of India **the Union Minister of Railways and Commerce & Industry Piyush Goyal.**

Contactless Credit Card:

- Contactless Credit Card on RuPay Platform is aimed to offer a safe and protected transaction environment to its customers.

- New RuPay credit card has been equipped with **Near Field Communication (NFC) technology.** Hence, the users is allowed expedite their transactions at the **point of sale (POS)** machines by just tapping the card on the machines without requiring to swipe the card.

- The card will offer the rail passengers maximum savings proposition on their travel together with exclusive benefits on retail, dining, and entertainment and transaction fee waivers.

- The Cardholders will receive up to **10%** value back on **1st AC, 2nd AC, 3rd AC, Executive Chair Car & AC Chair Car bookings made at IRCTC website.**

- It also offers an online transaction fee waiver, **1% of the transaction amount**, **1% fuel surcharge waiver**, and **4 premium lounge free access at Railway stations in a year**.

- The users is allowed to redeem the accumulated reward points against purchase of train tickets on IRCTC's ticketing website.
- The IRCTC SBI card offers several benefits for online shopping portals apart from the saving from rail travel.
- Customers can also avail discounts while shopping at e-commerce sites.
- The main objective of the card is to ensure a safe, convenient and improved travel experience for the rail passengers.

1.75 Merger Under Tenth Schedule

- Recently, the **Bahujan Samaj Party (BSP)** has issued a whip in **Rajasthan Assembly** and asked all its six **Member of Legislative Assemblies (MLAs)** to vote against **Indian National Congress (INC) government** on floor test.
- However all six BSP MLAs had joined the INC by announcing the merger in **September 2019.**

Key Points

- The BSP is arguing that a state unit of a national party cannot be merged without the party being merged at the national level. It has termed the merger of six MLAs as illegal and unconstitutional.
- It has cited two decisions of the Supreme Court to support its arguments:
- **Jagjit Singh v State of Haryana 2006case**.
- In this case, four legislators from single-member parties in the **Haryana Assembly**, who said their parties had split and later joined the Congress. The court upheld the Speaker's decisions disqualifying them.
- **Rajendra Singh Rana And Ors vs Swami Prasad Maurya 2007 case.**
- In the **2002 Uttar Pradesh elections, 37 MLAs** — **one-third of the BSP strength** — **"split"** from the party after its government fell, to support Samajwadi Party. The SC ruled that the split cannot be recognised primarily because not all these MLAs split at once.
- It can be noted that the above two cases were prior to the **91st Constitutional Amendment of 2003** which deleted the **Paragraph 3 of the Tenth Schedule**.
- This amendment was made as the one-third split rule was grossly misused by parties to engineer divisions and indulge in horse-trading. One-third was regarded as an easy target to achieve and the law now exempts defection only when it is at two-thirds (in a merger).

2. **INTERNATIONAL RELATIONS**

2.1 <u>**US Congressional Committee passes bill to promote legacy of Mahatma Gandhi and Martin Luther King Jr.**</u>
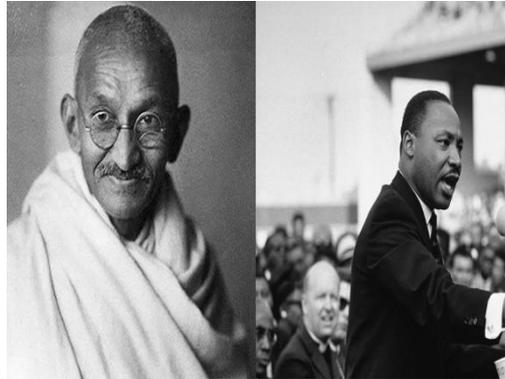
- A key congressional committee of the United States on July 29 passed a bill written by the Civil rights icon John Lewis. The bill aims at promoting the legacies of Mahatma Gandhi and Martin Luther King Jr.

- The Gandhi-King exchange pact, which was co-sponsored by Indian-American Congressmen Ami Bera, was passed by the House Foreign Affairs Committee.

- The newly passed bill will aim at establishing an exchange initiative between India and the United States to study the work and legacies of Martin Luther King Jr. and Mahatma Gandhi.

Origin of the New Act:

- Congressman John Lewis led a congressional delegation to India in 2009 to commemorate the 50th anniversary of Martin Luther King's Pilgrimage to India.

- Inspired by his visit to India, John Lewis created the Gandhi-King Exchange Act in order to apply the philosophies of Mahatma Gandhi and Martin Luther King Jr. to conflict resolution efforts and current policy changes.

Promoting the legacy of Mahatma Gandhi and Martin Luther King Jr.:

- As per Ami Bera, the US and India, which are the world's oldest and largest democracies have long traditions of upholding the shared values of which were championed by figures like Mahatma Gandhi, Martin Luther King Jr., and Congressman John Lewis but they are increasingly under threat in both the countries.

- But this newly passed legislation will help in ensuring that those values endure as well as will remind us that by holding true to them, we embody and live up to the best of our two nations.

- While noting that Dr. King Jr. and Mahatma Gandhi were the dedicated leaders who fought for peace, social justice and social change and civil rights in their respective communities and countries, the bill mentions that the use of non-violent civil disobedience is a shared tactic that

played a key role in defeating the social justice in India and the US as well as in other parts of the world.

2.2 Colombo plea for postponing debt repayment hangs in fire

- Sri Lanka has been witnessing an economic crisis.
- Sri Lanka's foreign reserve which was already in peril due to economic troubles and 2019's Easter Sunday terror attacks are being further drained after the pandemic.
- The critical aspects of the Sri Lankan economy involving exports (tea and garments), labour remittances and tourism sectors have been badly hit.
- Sri Lanka's total foreign debt is approximately $55 billion, which accounts for nearly 80% of its GDP. Sri Lanka is scheduled to repay $2.9 billion of its total external debt in 2020. Sri Lanka has an outstanding payment of about $960 million to India.
- Japan's International Cooperation Agency (JICA) has put on hold funding for a proposed light rail transit system, because of concerns over Sri Lanka's rising debt.

Debt moratorium requests:

- Sri Lanka has renewed calls to international monetary organisations to provide debt relief for developing countries and has also made an appeal to all its debt partners, including India.
- Sri Lanka has requested India for a debt moratorium and has also made two separate requests for a currency swap facility.
- The Central Bank of Sri Lanka has also sought a $400 million currency swap with the RBI under the SAARC facility and another request was made from the visiting Sri Lankan President seeking a "special" $1.1 billion Currency swap facility from India.

Details:

- Sri Lanka's request to India for a postponement of its debt repayment has been under consideration and no decision has been taken even after more than four months have passed since the formal request was made.

2.3 NASA headquarters to be renamed as Mary W. Jackson

The US Space Agency, NASA has announced that its Headquarters in Washington, D.C., will be named after Mary W. Jackson, one of its history-making engineers. The information was passed by

NASA Administrator Jim Bridenstine.

Mary W. Jackson:

- In 1942, Mary W. Jackson graduated with Bachelor's Degrees in mathematics and physical science from Hampton University, which is a historically Black university. She was a mathematician & aerospace engineer.

- She started the NASA career in the segregated West Area Computing Unit of the agency's Langley Research Center in Hampton, Va. In the year 1951, she was recruited by the National Advisory Committee for Aeronautics, which was succeeded in 1958 by NASA, where she worked until her retirement in 1985.

- She worked along with Katherine Johnson and Dorothy Vaughan, two other history-making Black mathematicians, during the space race. The women's stories were described in Margot Lee Shetterly's 2016 nonfiction book "Hidden Figures: The American Dream and the Untold Story of the Black Women Who Helped Win the Space Race." The movie was adapted into a motion picture titled "Hidden Figures". It was nominated for three Academy Awards.

2.4 South China Sea rights should be rooted in UN treaty: ASEAN

South China Sea rights should be rooted in UN treaty. Statement issued at the end of the ASEAN leaders' annual summit**.**

Details:

- Southeast Asian leaders have called for the 1982 UN oceans treaty to be the basis for determining maritime entitlements and sovereign rights in the South China Sea.

- The United Nations Convention on the Law of the Sea (UNCLOS) is a 1982 international agreement that defines the rights of nations to the world's oceans.

- The statement calls for adherence to the rule of law in a disputed region that has long been regarded as an Asian flashpoint.

- This marks one of the strongest remarks of the member nations, opposing China's claim to the entire disputed South China Sea waters based on historical grounds. While it has criticised aggressive behaviour in the disputed waters, ASEAN has not named China in its post-summit communique.

2.5 36th ASEAN Summit

- Recently, the 36th Association of Southeast Asian Nations (ASEAN) Summit was held via video conference to focus on the Covid-19 pandemic response, post-pandemic recovery and further cooperation with partner countries.

- The theme for the Summit was "Cohesive and Responsive ASEAN".

- The Summit was chaired by Vietnam which is also holding the chairmanship of ASEAN currently.

Key Points

ASEAN Covid-19 Response Fund:

- The summit has decided to establish the ASEAN Covid-19 response fund with a reserve for medical supplies to meet urgent needs during epidemics.
- A special ASEAN meeting convened in April to tackle the pandemic had failed to agree on an emergency fund.
- It has also decided to build the ASEAN standard procedures of epidemic response in case of health emergencies.

Crippling Economies:

- The Summit has stated that the ASEAN region's economy is expected to contract for the first time in 22 years.
- It has also focussed on the crippling cost of the coronavirus, which has ravaged the economies of tourism and export-reliant countries such as Thailand and Vietnam.
- South China Sea Issue:
- The Summit noted concerns over land reclamations and recent developments in the South China Sea.
- China claims most of the resource-rich South China Sea but is also contested by Vietnam, the Philippines, Malaysia and Taiwan.
- Vietnam had also accused China of sinking its trawler. This incident had prompted the USA to warn that China is trying to exploit the pandemic situations of other states to expand its unlawful claims.
- The USA is not a claimant to any territories in the South China Sea but has sent its navy to patrol the area in support of freedom of navigation, while China had slammed this move as an interference in regional affairs by an outside power.
- Both Vietnam and Philippines lodged protests with China after it unilaterally declared the creation of new administrative districts on islands.
- Also, in April China has officially named 80 islands and other geographical features in the disputed waters to which Vietnam and the Philippines also have competing claims.
- The Summit has also called on parties to refrain from escalating tensions and abide by responsibilities under international laws.

2.6 The World Drug Report 2020: UN

- Recently, the United Nations Office on Drugs and Crime (UNODC), in its 2020 World Drug Report, has highlighted the possible consequences of the Covid-19 pandemic on Illegal Drug Production, Supply and Consumption.

- According to it, due to economic hardship, people may resort to illicit activities linked to drugs to make a living.
- The report further revealed that the measures taken by governments to counter the pandemic inevitably had double-edged consequences on large-scale drug supply.

Key Points

Economic Crisis and Diverted Focus:

- There would be reductions in drug-related budgets of the governments due to Covid-19 and overall increase in drug use, with a shift towards cheaper and more harmful drugs.
- Some countries, such as Italy, the Niger and countries in Central Asia, have experienced a sharp decrease in drug seizures, as drug traffickers have diverted their attention to other illegal activities, including cybercrime and trafficking in falsified medicines (in Balkan countries).
- Other countries, including Morocco and Iran, have reported huge drug seizures, indicating large-scale drug trafficking.

Impact of Lockdown:

- The lockdown could hinder the production and sale of opiates in major producing countries as the key months for the opium harvest in Afghanistan are March to June.
- The decline in international trade resulting from the pandemic could lead to a shortage in the supply of acetic anhydride, a precursor vital to the manufacture of heroin
- A shortage of poppy lancers was observed in the western and southern provinces of the country, mainly due to the closure of a border crossing with Pakistan. However, the shortage of lancers was eventually overcome due to women workers increasingly engaged in the poppy-lancing process, therefore
- The report also Indicated that the lockdown is increasing demand for cannabis, given that its production often takes place near consumer markets and traffickers.
- Drug trafficking by air is likely to be completely disrupted by the restrictions on air travel. There are signs of increased use of maritime routes.

Maritime Routes:

- The recent heroin seizures in the Indian Ocean could be interpreted as an indication of an increase in the use of maritime routes for trafficking heroin to Europe along the 'southern route'.
- While border measures appear to be hindering trafficking in opiates, large shipments of cocaine are still being trafficked but by alternative means, via sea routes.

India and Illicit Drug Trade

- **Major Hub of Illicit Drug Trade:** According to a report by the United Nation Office on Drugs and Crime (UNODC), India is one of the major hubs of illicit drug trade ranging from age-old cannabis to newer prescription drugs like tramadol, and designer drugs like methamphetamine.

- **Drug Trafficking Routes:** India is in the middle of two major illicit opium production regions in the world, the Golden Crescent (Iran-Afghanistan-Pakistan) in the west and the Golden Triangle (South-East Asia) in the east.

2.7 UN 75 Declaration delayed

- Recently, a commemorative declaration marking the 75th anniversary of the signing of the United Nations (UN) Charter was delayed as member states could not reach an agreement on phraseology.

Key Points

- The Five Eyes (FVEY)— Australia, Canada, New Zealand, the United Kingdom and the United States— along with India, objected to the use of a phrase "shared vision of a common future", which is associated with China.

- The Five Eyes (FVEY) network is an intelligence sharing alliance between these five countries.

- The 'silence' process was broken at the request of the U.K's Ambassador to the UN, who wrote a letter on behalf of the six countries to the President of the 74th General Assembly, suggesting alternative wording.

- Silence process is a procedure by which a resolution passes if no formal objections are raised within a stipulated time.

- However, China, on behalf of itself and Russia, Syria and Pakistan raised objections to the silence being broken.

- The current impasse comes at a time when China's relationships with a number of countries, including India, Australia and the U.S.A, are strained.

- Given the impasse, the UN General Assembly President has suggested an alternatively phrased declaration, which he has placed under the silence procedure.

2.8 26.9 crore people used drugs in 2018: UN report

The United Nations Office on Drugs and Crime's (UNODC) World Drug Report.

Details:

Increased usage:

- The report notes that about 26.9 crore people used drugs in 2018, which 30% is more than the 2009 figure, with adolescents and young adults accounting for the largest share of users.

- Compared with earlier estimates from a survey done in 2004, overall opioid use in India is estimated to have increased fivefold.

- The stimulant scene is dominated by cocaine and methamphetamine, and the use of both substances is rising in their main markets. Production of heroin and cocaine remains among the highest levels recorded in modern times.

Expanding markets:

- Rapid market changes are being noticed, with synthetics replacing opiates in Central Asia and the Russian Federation.

- Crystalline meth market has also grown in opiate dominated areas like Afghanistan and Iraq.

- A number of indicators suggest that the global market of amphetamines, particularly methamphetamine, is expanding. Traffickers and manufacturers have been using "designer chemicals" as an alternative to synthesise amphetamine, meth and ecstasy.

2.9 <u>International Day of Parliamentarism is observed on 30 June</u>

- International Day of Parliamentarism is observed on 30th June every year. The day is aimed to honor the Parliamentarian for their service amid the pandemic.

- During the COVID-19 crisis, Parliaments and other government institutions are subject to the same social distancing measures as other public and private organizations.

- But the parliament plays a more vital role than ever to pass emergency laws, allocate resources, and scrutinize government action.

Parliament:

- Parliaments are the cornerstone of democracy. It represents the voice of the people, passed laws, allocate funds to implement laws and policies, and hold governments to account. Parliaments work to make sure that policies benefit all people, especially the most vulnerable.

- Parliaments link international and national agendas and ensure that governments implement international treaties and agreements that they sign up to. Parliaments in the countries play a vital role in implementing the 2030 Agenda for Sustainable Development. Also, the Inter-Parliamentary Union (IPU) is working closely to help build their capacity in doing so.

History:

- The United Nations General Assembly (UNGA) passed resolution A/RES/72/278 and designated June 30 to celebrate the International Day of Parliamentarism. The day was chosen as IPU, the global organization of parliaments, was established on 1889.

- The day aims to recognize the role of parliaments in national plans and strategies. The day will also ensure greater transparency and accountability at the national and global levels.

2.10 <u>Kholongchhu Hydropower Project</u>

- Recently, India and Bhutan have signed concession agreement on the 600 MW Kholongchhu Hydropower Project.

- It will be the first-ever Joint Venture (JV) project between India and Bhutan.
- The JV partners are Satluj Jal Vidyut Nigam (SJVN), and the Druk Green Power Corporation (DGPC) from India and Bhutan respectively.

Key Points

Description:

- The Kholongchhu project is one of four additional projects agreed in 2008, as a part of India's commitment to help Bhutan to create a total 10,000 MW of installed capacity by 2020.
- The 600 MW run-of-the-river project is located on the lower course of the Kholongchhu river in eastern Bhutan's Trashiyangtse district.
- The project is expected to be completed in the second half of 2025.
- The project will be constructed as a 50:50 joint venture.

Significance:

- **Concession Period:** The Government of India will provide, as a grant, the equity share of the Bhutanese DGPC in the JV Company. Once the project is commissioned, the JV partners will run it for 30 years, called the concession period, after which the full ownership will transfer to the Bhutan government, which will receive power from the project as a royalty.
- **Bilateral Cooperation:** The tapping of hydropower in Bhutan would pave a way for successful bilateral cooperation and mutual engagement between India and Bhutan.
- **Strategic Interest**: Being a member of BIMSTEC, Bhutan holds geostrategic importance for India. The shared sense of support and help in terms of such development projects between the two countries can help India in executing its Act East-Look East Policy.
- **Energy Trade:** The project would act as a milestone in generation of energy and related trade.
- The project would aid in a clean and stabilising power source for India and also contribute to its renewable energy targets.
- **Employment Opportunities:** Commencement of construction activities of the project will create economic and employment opportunities in Bhutan.
- India needs to focus on the youth of Bhutan, as it is the youth only, which would take the people-to-people contact forward in the future.
- **Economic Growth**: The plant would drive economic growth and hence socio-economic development would be facilitated in Bhutan.

Concerns:

- **Power Tariffs:** The project which started in 2014 was on halt since December 2016 over India's new power tariff guidelines on Cross Border Trade of Electricity - CBTE, until the government amended its guidelines after negotiations with the Bhutan government.

- Power tariff revision which includes the increase in the operations and maintenance charges may become a bone of contention.

- **Risk of the JV-model:** Another issue is regarding the risk of the JV-model for the project as Bhutan had expressed concern over a greater financial risk due to project delays.

- The delays had an impact on Bhutan's growth, as well as its exports and revenues. For example, the World Bank has attributed the decline in the country's growth rate directly to delays in hydropower construction and the dip in electricity generation.

- However, India has maintained that it prefers the more commercial model as it not only shares the risk, but also makes Indian PSUs show greater accountability on time and cost, as they become investors rather than contractors.

2.11 State of the World Population 2020: UNFPA

- Recently, the United Nations Population Fund (UNFPA) has released the State of the World Population 2020 report, titled 'Against my will: defying the practices that harm women and girls and undermine equality'.

- It highlights at least 19 human rights violations against women and focuses on the three most prevalent ones, Female Genital Mutilation (FGM), extreme bias against daughters, in favour of sons and child marriage.

Key Points

Global Data:

- The number of missing women has more than doubled over the past 50 years, who were at 61 million in 1970.

- Missing females/women: These are women missing from the population at given dates due to the cumulative effect of postnatal and prenatal sex selection in the past. The phrase was coined by Amartya Sen.

- In Afghanistan, Bangladesh and Pakistan excess female mortality of girls below 5 years of age was under 3%.

- Excess female mortality: It is the difference between observed and expected mortality of the girl child or avoidable death of girls during childhood.

- According to estimates averaged over a five year period (2013-17), annually, there were 1.2 million missing female births, at a global level.

India Specific Data:

- One in three girls missing globally due to sex selection, both pre- and post-natal, is from India, i.e. 46 million out of the total 142 million.
- India has the highest rate of excess female deaths at 13.5 per 1,000 female births or one in nine deaths of females below the age of 5 due to postnatal sex selection.
- In India, around 460,000 girls went missing at birth, which means they were not born due to sex-selection biases, each year between 2013 and 2017.
- India (40%) along with China (50%) account for around 90% of the estimated 1.2 million girls lost annually to female foeticide.

Female Genital Mutilation:

- It involves the partial or total removal of external female genitalia or other injuries to the female genital organs for non-medical reasons.
- The practise has no health benefits for girls and women and can cause severe bleeding, problems in urinating, cysts, infections, as well as complications in childbirth and increased risk of newborn deaths.
- An estimated 4.1 million girls will be subjected to female genital mutilation in 2020.

Extreme Bias against Daughters, in favour of sons:

- An extreme and continuing preference for sons over daughters in some countries has fuelled gender-biased sex selection or extreme neglect which leads to girls' death as children, resulting in missing females.
- The report examines the issue of missing women by studying sex ratio imbalances at birth as a result of gender-biased sex selection as well as excess female mortality.
- The advent of technology and increased access to ultrasound imaging allow parents to terminate a foetus after knowing its gender.
- Due to this, the number of girls missing due to female foeticide exceed those that are missing because of postnatal sex selection.
- These skewed numbers change the population proportions and result in 'marriage squeeze'.
- Marriage squeeze: It happens when prospective grooms far outnumber prospective brides, which further results in human trafficking for marriage as well as child marriages.
- These violations result in fewer choices for females and putting them under the sexual, economic and legal control of men, curbing their human rights.

Child Marriage:

- Every day, around 33,000 girls under age 18 are forced into marriage, usually to much older men.
- In India, child marriage is directly linked to poverty, poor education and geographic location and the rural and urban divide.

Covid-19 Induced Challenges:

- The economic disruptions and income-loss because of the Covid-19 pandemic are likely to increase violence against girls and women due to intensified unwantedness of daughters and gender discrimination.
- The Covid-19 pandemic threatens to reverse the progress made in ending some harmful practices worldwide.
- In India, Covid-19 has reduced access to contraception and abortion services, which is likely to lead to an increase in unwanted pregnancies and unsafe abortions.

Initiatives Appreciated:

- The report pointed out that successful education-related interventions include the provision of cash transfers conditional on school attendance or support to cover the costs of school fees, books, uniforms and supplies.
- The report took note of the successful cash-transfer initiative such as 'ApniBeti Apna Dhan' in India.

2.12 Dharma Chakra Day

The Ministry of Culture, Government of India in partnership with International Buddhist Confederation (IBC) will celebrate the upcoming Asadha Poornima on 4th July, 2020 as Dharma Chakra Day.

Key Points

- The festivities would start off with chanting of prayers at Sarnath, Varanasi (U.P.) which will be livestreamed, following which the opening event will be shifted to the Rashtrapati Bhavan.
- The auspicious day of Asadha Poornima falls on the first full moon day of the month of Asadha as per Indian sun calendar.
- It is also known as EsalaPoya in Sri Lanka and AsanhaBucha in Thailand.
- It is the second most sacred day for Buddhists after the Buddha Poornima or Vesak.
- The day marks Buddha's first teaching after attaining Enlightenment to the first five ascetic disciples (pañcavargika) on the full-moon day of Asadha at 'Deer Park', in the current day Sarnath, near Varanasi, India.
- This teaching of Dhamma Cakka- PavattanaSutta (Pali) or Dharma chakra Pravartana Sutra (Sanskrit) is also known as the First Turning of Wheels of Dharma and comprised of the Four Noble Truths and Noble Eightfold Path.
- The Rainy Season retreat (Varsha Vassa) for the Monks and Nuns also starts with this day lasting for three lunar months from July to October, during which they remain in a single place, generally in their temples (Viharas/ Chaityas) dedicated to intensive meditation.

- The day is also observed as Guru Poornima by both Buddhists and Hindus as a day to mark reverence to their Gurus.

Buddhism and Diplomacy

- Buddhism has become an important tool in contemporary geopolitics particularly in Asia, and it has become increasingly evident that whoever controls the Buddhist discourse and activities will sway influence in Asia.

- The celebration of Dharma Chakra Day is being pushed as an event to show India's strong Buddhist heritage amid tensions with China. It will see the virtual participation of leaders from major Buddhist countries, except China.

- The timing of the event is particularly important, because this is when both countries would like to resurrect their linkages with others. To show that like-minded countries are coming together sends across a message. What is however important is that one has to put in sustained effort at this, and have a relook at India-China policy with strategic cultural moves.

- The Central Tibetan Administration has asked Tibetan Buddhists to participate in the online event in large numbers to "support and appreciate" the effort.

- The Central Tibetan Administration (CTA) is an organisation headquartered in McLeod Ganj, Dharamshala, India. It is also referred to as the Tibetan Government in Exile which has never been recognized by China.

- The position of the CTA is that Tibet is a distinct nation with a long history of independence and it considers China's administration of Tibet as illegitimate military occupation.

- In addition to political advocacy, it administers a network of schools and other cultural activities for Tibetans in India.

- Meanwhile, the People's Republic of China (PRC)'s World Buddhist Forum (WBF) has been hosting congregations of buddhist monks since 2005. China's extensive infrastructure investment in Lumbini, Buddha's birthplace in Nepal, is also seen as a strategic move to claim the Buddhist legacy.

Suggestions

- While Buddhism might have vanished from India as a religion practised by many people, it is still a critical part of India's civilisational ethos.

- There should be more buddhist corridors including Ladakh, Himachal Pradesh and Arunachal Pradesh, apart from Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat and Andhra Pradesh.

- There could be nodal centres for people-to-people exchanges for those who come from South Korea, Taiwan and other countries.

- Although no other country can take Buddhist leadership away from India, the status of Buddhism in India is quite different now.
- India has not been promoting its own Buddhist streams or strengthening the original Buddhism.
- Promoting anything else or any other brand than its own limits a genuine outreach. Promoting anything else becomes a subject of contestation, and the essence of using Buddhism as a diplomatic card gets lost.

2.13 Constitutional Amendments in Russia

- The Russian citizens have supported a set of constitutional amendments including continuation of presidency by Vladimir Putin in a recently held referendum in the country.
- The referendum also included clauses related to the reorganisation of the government, introducing a higher minimum pension and wages, a ban on gay marriage, restricting top officials from holding dual citizenship, enshrining "faith in God" as a core value and emphasising the primacy of the Constitution over international treaties and rulings.
- A referendum is a direct and universal vote in which an entire electorate is invited to vote on a particular proposal and can have nationwide or local forms.
- It supports direct democracy.
- The referendum was originally planned for April 2020 but was delayed due to the coronavirus outbreak.

Key Points

Clause for Continuation of Presidency Term:

- The Russian Constitution bars more than two consecutive presidential terms.
- The new Constitution doesn't change the two-term limit in theory, but in practice, it resets Mr Putin's terms so that it will be the first election under the new Constitution for him, to be held in 2024.
- According to the referendum, the current President of Russia Vladimir Putin can stay in power for two more six-year terms (until 2036) after his term expires in 2024.
- **Significance:**
- The amendments have enhanced the powers of the State Council, an advisory body. Overall, the changes will help to tighten his grip over Russia.
- The proposed changes had already been approved by Parliament and the Supreme Court but it was put to vote to gain legitimacy and popular approval.
- The preliminary results released by the Election Commission showed that almost 78% of voters endorsed the amendments, while 21% voted against them. Some 65% voters had turned up to cast their ballots.

- **Background:**
- Mr. Putin became President for the first time in 2000. After completing his two terms, he swapped the presidency with Mr. Dmitry Medvedv. During the Medvendv presidency, Mr. Putin remained the centre of power as Prime Minister.
- Mr. Medvedv served one term and stepped aside for Mr. Putin to assume the presidency again. Thus, Mr. Putin is now into the second term of his second stint as President, which will expire in 2024.
- If Mr. Putin stays in power for two more terms, he will be the longest serving Russian leader since Peter the Great.
- The Tsar, who built the Russian Empire, was in power for 43 years until his death in 1725.

Challenges Ahead:

- According to the International Monetary Fund (IMF), the economy hasn't expanded in dollar terms for a decade. The Fund estimates the Gross Domestic Product (GDP) to shrink by 6.6% in 2020.
- The pandemic affecting local businesses and the falling oil prices reducing exports revenue.
- In foreign policy, Russia's relationship with the West remains troublesome. The sanctions imposed on Russia after the annexation of Crimea in 2014 are still in place.
- Though Russia managed to prevent the collapse of the Syrian regime after its intervention in the civil war, the Syrian crisis is far from resolved.
- Russia also faces allegations of interference in the elections of other Countries.

2.14 Italian Marines Case

- Recently, the Permanent Court of Arbitration (PCA) has published an extract of the final award of the ad-hoc tribunal constituted to settle disputes related to the United Nations Convention for the Law of the Sea (UNCLOS) regarding Italian marine Case between India and Italy.
- It has rejected India's contention that the soldiers, who were accused of killing Indian fishermen, could be tried in Indian courts and ordered India to cease all criminal proceedings.

Background

- In 2012, Indian police had detained two Italian Marines posted on oil tanker Enrica Lexie who had shot at two Indian fishermen on an Indian vessel, apparently mistaking them for pirates operating near the Kerala Coast.
- After three years, Italy moved the International Tribunal for Law of the Sea (ITLOS) seeking for two italian marines to stay in their own country during the trial process and also to stop India from going ahead with its criminal prosecution.
- At that time, India had set up a specially designated court, as ordered by Indian Supreme Court, to determine the applicability of jurisdiction.

- India's National Investigation Agency had already slapped charges against the two Italians under sections of the Indian Penal Code, related to murder, attempt to murder, mischief and common intent.
- The ITLOS judgement of 2015 called on Italy and India to suspend all domestic prosecutions arising from the Enrica Lexie Case. It had also ordered not to initiate any steps that might jeopardize or prejudice the carrying out of any decision which the arbitral tribunal may provide.
- The matter led to a long freeze in diplomatic relations between India and Italy, which were reset only in 2016.

Key Points

Judgements in Favour of India:

- The tribunal held that the actions of the Italian military officers breached India's freedom of navigation under UNCLOS Article 87(1)(a) and 90.
- The tribunal also held that India is entitled for payment of compensation in connection with loss of life, physical harm, material damage to property and moral harm suffered by captain and crew of 'St Antony', the Indian vessel.

Judgements in Favour of Italy:

- India had called on the Permanent Court of Arbitration (PCA) UNCLOS tribunal to adjudge and declare that PCA has no jurisdiction with respect to the case submitted to it by Italy. However, a majority of the court's five- member bench ruled 4-1 that it had jurisdiction in the matter.
- Italian position that the Marines, being members of the Italian armed forces in the official exercise cannot be tried by Indian Courts, was held and immunity was granted to Italian Marine officials.

Basis of the Judgement:

- The tribunal observed that India and Italy had concurrent jurisdiction over the incident and a valid legal basis to institute Criminal proceedings against the Marines.
- However, it also observed that the immunities enjoyed by the marines as State officials operate as an exception to the jurisdiction of the Indian Courts and, hence, preclude them to judge the marines.

2.15 India-Russia likely to sign defence logistics sharing pact by the end of 2020

- India and Russia are likely to sign defence logistics sharing pact at the annual summit that has been planned by the end of 2020. The pact will enable both the countries to have seamless access to each other's military bases and other support facilities.
- The formal agreement will simplify the interoperability and will enable support to military platforms like aircraft and warships.
- The pact between both the countries will prove to be of significance as Russia has continued to be a leading arms supplier to India, with joint exercises that have also been increasing in the recent years.

About Defence Logistics Pact:

- The Defence Logistics Pact between Russia and India is currently being negotiated and can be signed at the next edition of the annual summit during Russian President Vladimir Putin's visit to India later this year.
- Russia assured the steady supplies of weapons following a request from India for a variety of equipment under the emergency purchase clause. It includes missiles, key ammunition, and assault rifles.
- Under the signed pact, warships will get access to the exclusive economic zones and mutual ports to refuel and pick up supplies. Both countries have also been planning to relaunch the Chennai-Vladivostok shipping route as part of the emerging partnership in the Indio-Pacific region. This can also feed into defence logistics pact.

What can be expected from the agreement?

- Once the pact is signed, the Indian Navy with a strength of Russian origin warships will be able to smoothly transit through for exercises using the agreement. While the fighter aircraft will get access as per the proposed pact.

- There can also be a component of deployment of troops in each other's country up to a certain number as per the agreement signed.
- Russians, in return, will also be able to use ports like Vishakhapatnam and Mumbai for refuelling and India will be able to do the same when it will come to Russian airports and bases.
- These will include the access to Northern route and ports in the Russian part of Arctic.
- India has also been looking at an Arctic station in the near future and Russia could be a partner as Russia has also assured India access to the energy resources in the vast Arctic region.

3. INDIAN ECONOMY

3.1   India to impose quality curbs on 370 items including Chinese products

- India has decided to bring almost 371 categories of items under the mandatory Indian Standards (IS) regime by March 2021. The items include consumer electronics, toys, paper, glass, rubber articles, heavy machinery, steel bars and steel tubes.

- Most of these items that India plans to bring under its quality curb regime are largely imported from China. The move will put a curb on the import of such sub-standard items.

- The selected items were identified by the commerce ministry last year. However, the process has gained pace recently with India's increasing focus on its Atmanirbhar Bharat initiative, which includes reducing imports and increasing exports.

Key Highlights

- The Union commerce ministry has identified 371 imported items including Chinese products. The Ministry will now frame the mandatory standards for these items.

- The Consumer Affairs Minister Ram Vilas Paswan has launched two Bureau of Indian Standards (BIS) websites.

- The concerned Ministries will now identify the important items from the list given by the commerce ministry. They are also approaching the Bureau of Indian Standards (BIS) for making the mandatory standards.

- The norms will be in place by December for most products and for the remaining, it will come into force by March 2021.

- The standards will however not apply for certain items that are imported in less quality.

- The Ministry plans to enforce the new standards by deploying its officers at government-owned major ports such as Kandla, JNPT and Cochin. The officials will work closely with the customs officials and carry out tests on the spot.

3.2   Centre to go ahead with disinvestment of 23 PSUs cleared by the cabinet

- Finance Minister, Nirmala Sitharaman announced on July 27 that the central government has been working on completing the stake sale process of about 23 public sector companies whose disinvestment has been cleared by the cabinet.

- The Union Minister also mentioned that she will soon meet small finance firms and the non-banking finance companies (NBFCs) in order to review the credit being extended by them to businesses.

- The central government as part of the Atmanirbhar Package had announced opening up of all the sectors for private participation. In those sectors which will be called strategic, the private will be allowed to come in but the public sectors will be limited to a maximum of 4 units.

Disinvestment of PSU's by the government:

- For the fiscal year, 2020-21, the central government has set a disinvestment target of Rs. 2.10 lakh crore. Out of this, Rs. 1.20 lakh crore will come from the disinvestment of PSUs and another Rs. 90,000 crores from the stake sale in financial institutions.

Key Highlights:

- There are already 22-23 PSUs which have been cleared by the cabinet for disinvestment.

- The Finance Minister has informed that the final call as to which sectors are going to be called 'strategic' is not made yet. The announcement will soon be made by the government.

- In the strategic sectors, the involvement of private and limited units of the public sector will lead to the consolidation of Public Sector Undertakings (PSUs) as well as will scale up their operations.

- While talking about the disinvestment plan, the finance minister informed that the government wants to sell stake in public sector companies at a time when it fetches the right price.

Plan of extending credit to the industry:

- With the purpose of extending credit to the industry, Finance Minister Nirmala Sitharaman mentioned that under the Emergency Credit Line Guarantee Scheme, micro, small and medium enterprises can easily avail loans.

- The total amount sanctioned, as of July 23, 2020, under the 100% Emergency Credit Line Guarantee Scheme by the private and public sector banks stands at Rs. 1,30,491.79 Crore, out of which Rs. 82,065.01 crores has already been disbursed. The union minister has also asked the banks to facilitate the process, as the government has taken the risk on itself.

3.3   Panel to push farm reforms in States

Finance Commission panel on agricultural sector reforms agenda.

Background:

- Interim report of the Finance Commission:

- In the framework for the Finance Commission's interim report for 2020-21, the commission had recommended performance incentives to be given to States on the basis of three measurable indicators of agricultural reforms.

- If State Legislatures enacted the Centre's Model Acts on agricultural marketing and contract farming, as well as the Model Agricultural Land Leasing Act, 2016, prepared by NITI Aayog, they would be eligible for financial incentives from the Commission from 2021-22.

Details

- In the light of the government efforts of reforms in the agricultural sector, the 15th Finance Commission is considering the promotion of an expanded farm reform agenda for States over the next five years.

- The Finance Commission has set up a panel to devise a mechanism for incentivization of States in areas of agricultural reforms agenda for the purpose of inclusion in the Commission's recommendations in its final report.

- The panel will consider new agricultural reform measures to promote among States, possibly including the Model Land Leasing Act.

3.4   Liquidity measures extended for Banks

- Recently, the Reserve Bank of India (RBI) has extended the relaxation relating to Marginal Standing Facility (MSF) scheme till 30th September 2020.
- It has also extended the relaxation relating to maintenance of Cash Reserve Ratio (CRR) up to 25th September 2020.
- This was done in view of the hardships being faced by banks in terms of social distancing at work and consequent strain on reporting requirements.

Key Points

Marginal Standing Facility:

- The RBI, as a temporary measure, had increased the borrowing limit of scheduled banks under the MSF scheme from 2% to 3% of their deposits with effect from 27th March 2020.
- Earlier, the above relaxation was granted till 30th June 2020.
- MSF is a window for scheduled banks to borrow overnight from the RBI in an emergency situation when interbank liquidity dries up completely.
- Under interbank lending, banks lend funds to one another for a specified term.
- Banks borrow from the RBI by pledging government securities at a rate higher than the repo rate under Liquidity Adjustment Facility (LAF).
- Repo rate is the rate at which the RBI lends money to commercial banks against the securities in the event of any shortfall of funds.
- Loans provided at repo rate are provided for a specified period with an obligation that the bank will repurchase the securities back at a predetermined rate.

3.5   Differences between Repo Rate and MSF

- Repo rate is the rate at which RBI lends money to commercial banks, while MSF is a rate at which RBI lends money to scheduled banks.
- The repo rate is given to banks that are looking to meet their short-term financial needs. While, the MSF is meant for lending overnight to banks.
- Lending at repo rates involves a repurchase agreement of securities. While it is not so in MSF.
- Under MSF, banks are also allowed to use the securities that come under Statutory Liquidity Ratio (SLR) in the process of availing loans from RBI.
- Under SLR, commercial banks are mandated by RBI to maintain a stipulated proportion of their deposits in the form of liquid assets like cash, gold and unencumbered (free from debt) securities.

3.6   Extension of Food Grain Scheme

Recently, many states have demanded for the extension of the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).

Key Points

- Pradhan Mantri Garib Kalyan Anna Yojana:
- PMGKAY is a part of Pradhan Mantri Garib Kalyan Package (PMGKP) to help the poor fight the battle against Covid-19.
- It was announced for a three month period (April, May and June), covering 80 crore ration cardholders. It will come to an end on 30th June 2020.
- The scheme aimed at providing each person who is covered under the National Food Security Act with an additional 5 kg grains (wheat or rice) for free, in addition to the 5 kg of subsidized food grain already provided through the Public Distribution System (PDS).
- The beneficiaries are also entitled to 1 kg of pulse for free, according to regional preferences.

Performance of the Scheme:

- According to the Union Ministry of Food and Public Distribution, a total of 116.02 lakh metric tonnes (LMT) of food grains have been lifted under the scheme.
- In April, 93% of the food grains were distributed targeting 74.05 crore beneficiaries.
- In May, the distribution stood at 91% reaching 72.99 crore beneficiaries
- In June 2020, 71% of allocated food grains have been distributed to 56.81 crore beneficiaries so far.

Sufficient Food Stock:

- According to the Central government, the Food Corporation of India has "sufficient stock of food grains".
- It has a stock of 266.29 LMT rice and 550.31 LMT wheat as on June 28.
- This is excluding the ongoing purchase of wheat and paddy stocks that have not yet reached the godowns.
- Each month, only about 55 LMT of food grains is required for distribution to ration cardholders.

Issues Involved:

- There is an excess of food stocks along with widespread hunger in the country.
- Around 200 million beneficiaries did not get their due in April 2020– in the distribution of additional food grains and pulses under the scheme.
- In April 2020 the government also allowed the conversion of surplus rice into ethanol for making alcohol-based hand sanitizer.3
- With the beginning of the monsoon, there is a danger of food grains getting rot.

3.7   RBI to conduct OMO to boost liquidity

The Reserve Bank of India (RBI) has announced that is is to conduct special "Open Market Operations

(OMO)" on 2 July 2020. The aim is to pump up liquidity in the financial system**.**

Highlights:

- RBI's special OMO session will see the simultaneous purchase and sale of government securities for Rs.10,000 crore.

- RBI will sell short-term securities, that worth Rs.10,000 crore, that are maturing in the current band next year and purchase long-term securities of an equal amount maturing between 2027 and 2033.

- The move by the Central Bank is expected to improve both liquidity and bond yields.

Open Market Operations (OMO):

- Open market operations (OMO) refers to a central bank's buying and selling of government securities in the open market in order to expand or contract the amount of money in the banking system. Securities' purchases inject money into the banking system and stimulate growth, while sales of securities do the opposite and contract the economy.

- In a multiple price-auction, each successful bidder pays the price stated in his bid. In case of 'uniform price' auctions, all successful bidders pay the same price that is the cut-off price at which the market clears the issue.

3.8   Core Sector Shrinks by 23.4%

- According to the data released by the Ministry of Commerce and Industry, eight core sector industries contracted by 23.4% in May, 2020.

- In April 2020 eight core sectors had contracted by 37%.

- In May 2019 eight core sectors had grown by 3.8%.

Key Points

- Core Sector Data: Except fertiliser, all seven sectors — coal, crude oil, natural gas, refinery products, steel, cement, and electricity — had recorded negative growth in May.

- The fertiliser production showed growth at 7.5% after two consecutive months of contraction.

- The steel and cement showed a shrinkage of 48.4% and 22.2% respectively.

- Reason: The main reason for contraction was factories remained affected by a lack of labour and cash shortages owing to the nationwide lockdown.

- Impact: Experts are of the opinion that aftershocks of the lockdown will continue to affect domestic industry in coming months.

- They will see a lower but certain contraction.

Core Sector Industries

- The eight core sector industries include coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity

- These comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).

- The eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.

3.9 Index of Industrial Production

- The Index of Industrial Production (IIP) is an indicator that measures the changes in the volume of production of industrial products during a given period.
- It is compiled and published monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.
- IIP is a composite indicator that measures the growth rate of industry groups classified under:
- Broad sectors, namely, Mining, Manufacturing, and Electricity.
- Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
- Base Year for IIP is 2011-2012.

Significance of IIP:

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

3.10 Special Liquidity Scheme for NBFCs/HFCs

- Recently, the Central government has approved the proposal to launch a Special Liquidity Scheme for Non-Banking Financial Companies (NBFCs) and Housing Finance Companies (HFCs) to improve their liquidity position.
- In the Budget Speech of 2020-21, it was announced that a mechanism would be devised to provide additional liquidity facility to NBFCs/HFCs over that provided through the Partial Credit Guarantee Scheme (PCGS).
- HFCs are specialized NBFCs that have a separate regulator National Housing Bank (NHB).

Key Points

Details of the Scheme:

- Under the scheme a Special Purpose Vehicle (SPV) would be set up to manage a Stressed Asset Fund (SAF) of the NBFCs/ HFCs.
- The SPV will issue securities, which would be guaranteed by the Government of India and purchased by the Reserve Bank of India (RBI) only.
- The proceeds of sale of such securities would be used by the SPV to acquire short-term debt of NBFCs/HFCs.
- The Scheme will be administered by the Department of Financial Services (Ministry of Finance).

Eligibility for NBFCs/ HFCs:

- They should not have net Non Performing Assets (NPAs) of more than 6% as on 31st March 2019.

- They should have made net profit in at least one of the last two preceding financial years of 2017-18 and 2018-19.
- They should not have been reported under SMA-1 or SMA-2 category by any bank for their borrowings during the last one year prior to 1st August 2018.
- Banks classify borrowers into Special Mention Accounts (SMA) based on their delay in repayment.
- SMA-0 loans are overdue between 1 and 30 days.
- SMA-1 loans are overdue between 31 and 60 days.
- SMA-2 loans are overdue between 61 to 90 days.
- The asset turns NPA after 90 days of being overdue.

Benefits:

- Unlike the Partial Credit Guarantee Scheme, NBFCs/ HFCs do not have to liquidate their current asset portfolio under this scheme.
- Current assets are all the assets of a company that are expected to be used as a result of standard business operations over the next year.
- The scheme would also act as an enabler for the NBFC to get investment grade for bonds issued.
- The Scheme would benefit the real economy by augmenting the lending resources of NBFCs/HFCs/MFls.
- This facility would supplement the liquidity measures taken so far by the Government and RBI.

Financial implication:

- The direct financial implication for the Central government is Rs. 5 crore, which may be the equity contribution to the SPV.
- Beyond that, there is no financial implication for the government until the guarantee involved is invoked.
- However, on invocation, the extent of government liability would be equal to the amount of default subject to the guarantee ceiling, which has been set at Rs. 30,000 crore.

3.11 India-UK affirm shared commitment towards Free Trade Agreement

- India and the United Kingdom affirmed their shared commitment towards a Free Trade Agreement during the 14th Joint Economic and Trade Committee meeting on July 24, 2020.

- The virtual meeting was co-chaired by Union Minister for Commerce and Industry Piyush Goyal and UK Secretary of State for International Trade Elizabeth Truss. The Minister of State for Commerce and Industry Hardeep Singh Puri and UK's Minister of State for International Trade Ranil Jayawardena had also attended the meeting.

- At the conclusion of the meeting, it was decided that a deliberation led by Union Commerce Minister Piyush Goyal and UK Trade Minister Elizabeth Truss will be held in August in New Delhi to carry forward the dialogue.

14th Joint Economic and Trade Committee meeting: Key Highlights

- During the 14th Joint Economic and Trade Committee meeting, India and the United Kingdom affirmed their shared commitment to a Free Trade Agreement and towards that, they agreed to engage in early harvest deals or limited trade agreements in a staged manner.

- MOS Hardeep Singh Puri and his UK counterpart Ranil Jayawardena will conduct monthly meetings to intensify the dialogue between the two nations.

- The co-chairs of Business led Joint Working Groups on Life Science and Health, ICT and Food and Drink set up during the previous Joint Economic and Trade Committee meeting made their recommendations to the Ministers.

- The meeting included formal talks followed by a plenary session led by MoS Hardeep Singh Puri, UK Minister of State for International Trade, Ranil Jayawardena and UK Minister of State for Investment, Gerry Grimstone. The Ministers interacted with several leading business leaders including Chandrajit Banerjee and Alay Piramal, who is co-Chair of the India UK CEOs' Forum.

- India and the United Kingdom both held talks open minds and shared commitment to revive and revitalise the long standing trade and economic linkages between them.

- India and the UK also resolved to cooperate in the health sector especially in the wake of COVID-19 pandemic.

4. ENVIRONMENT

4.1   Uganda Submitted REDD+ Results

- Recently, **Uganda** has become the first African country to submit results for **Reducing Emissions from Deforestation and forest Degradation (REDD+)** to the **United Nations Framework Convention on Climate Change (UNFCCC).**

REDD+

- Reducing Emissions from Deforestation and forest Degradation (REDD+) is a mechanism developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 2005.

- Uganda's REDD+ Results: There is a 44% reduction in the country's rate of deforestation annually between 2015 and 2017.

- The results submission by Uganda to the UNFCCC has paved the way for potential results-based payments to the country.

4.2   National Mission for Clean Ganga

- Recently, the **World Bank** has approved a five year loan (for the second phase) to the **National Mission for Clean Ganga (NMCG) or NamamiGange Project** worth **Rs.3,000 crore** to help stem pollution in the Ganga river basin.

- So far, **313 projects** worth **Rs. 25,000 crore** have been sanctioned under the mission.

Key Points

- **The First Phase:** The NamamiGange has already received Rs. **4,535 crore** from the World Bank as part of the first phase (valid until December 2021) of the National Ganga River Basin.

- **The Second Phase:**

- **Hybrid Annuity Projects:** The loan would fund three new in Agra, Meerut and Saharanpur, Uttar Pradesh for the t**'Hybrid Annuity Projects'**ributaries of the Ganga.

- **Cleaning Projects**: Some of the projects include spillover projects from the first phase of the mission as well cleaning projects in tributaries such as the Yamuna and Kali rivers.

- **DBOT Projects:Rs.1,209 crore** is provided for the ongoing DBOT (Design, Build, Operate and Transfer) projects in Buxar, Munger, Begusarai in Bihar.

- **Other Initiatives**: It would include institutional development, improving investment resilience to Covid-19 like emergency situations, performance based incentive for Urban Local Bodies and communication and management programmes.

Associated Challenges:

Pollution:

- Most of the Ganga is polluted and it is due to presence of five states on the river's main stem i.e. Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.

- Industrial pollution from tanneries in Kanpur, distilleries, paper and sugar mills in the Kosi, Ramganga and Kali river catchments are major contributors.
- **Violation of e-Flow Norms:** According to the Central Water Commission (CWC), 4 of the 11 hydro power projects on the upper reaches of the river Ganga's tributaries are violating Ganga ecological flow (e-flow) norms which is further interrupting the natural flow of the river.
- **Illegal Construction:** The problem of illegal and rampant construction near river beds has become a major hurdle in cleaning the river.
- **Poor Governance**: There is less utilisation of funds allotted under the programmes due to lack of monitoring and superviison.

Other Initiatives Taken

- **Ganga Action Plan:** It was the first River Action Plan that was taken up by the **Ministry of Environment, Forest and Climate Change in 1985,** to improve the water quality by the interception, diversion, and treatment of domestic sewage.
- The **National River Conservation Plan** is an extension to the Ganga Action Plan. It aims at cleaning the Ganga river under Ganga Action Plan phase-2.
- **National River Ganga Basin Authority (NRGBA):** It was formed by the Government of India in the year 2009 under **Section-3 of the Environment Protection Act, 1986.**
- It declared the Ganga as the '**National River' of India.**
- **Clean Ganga Fund:** In **2014**, it was formed for cleaning up of the Ganga, setting up of waste treatment plants, and conservation of biotic diversity of the river.
- **Bhuvan-Ganga Web App**: It ensures involvement of the public in monitoring of pollution entering into the river Ganga.
- **Ban on Waste Disposal:** In **2017**, the **National Green Tribunal** banned the disposal of any waste in the Ganga.

4.3 **Rajaji National Park**

- Recently, a clash took place between **Van Gujjars** and the Uttarakhand forest officials in the **Rajaji National Park.**

Key Points

- **Location:** Haridwar (Uttarakhand), along the foothills of the Shivalik range, spans **820 square kilometres.**
- **Background**: Three sanctuaries in the Uttarakhand i.e. **Rajaji, Motichur and Chila** were amalgamated into a large protected area and named Rajaji National Park in the year **1983** after the famous freedom fighter **C. Rajgopalachari**; popularly known as **"Rajaji".**

Features:

- This area is the **North Western Limit of habitat of Asian elephants.**
- Forest types include sal forests, riverine forests, broad–leaved mixed forests, scrubland and grassy.
- It possesses as many as 23 species of mammals and 315 bird species such as **elephants, tigers, leopards, deers and ghorals, etc.**
- It was declared a **Tiger Reserve in 2015**.
- It is home to the **Van Gujjars in the winters**.

Van Gujjars:

- It is one of the few forest-dwelling nomadic communities in the country.
- Usually, they migrate to the bugyals (grasslands) located in the upper Himalayas with their buffaloes and return only at the end of monsoons to their makeshift huts, deras, in the foothills. They inhabit the foothills of Himalayan states like Himachal Pradesh, Uttrakhand and J & K. U.T.
- They traditionally practice buffalo husbandry; a family owns up to 25 heads of buffaloes. They rely on buffaloes for milk, which gets them a good price in Uttarakhand and Uttar Pradesh markets.

Other Protected Areas in Uttarakhand:

- Jim Corbett National Park (first National Park of India).
- Valley of Flowers National Park and Nanda Devi National Park which together are a UNESCO World Heritage Site.
- Govind PashuVihar National Park and Sanctuary.
- Gangotri National Park.
- Nandhaur Wildlife Sanctuary.

4.4 Two New Species of Butterfly

- Recently, the **lepidopterists** have discovered the two new species of butterfly i.e. **Striped Hairstreak and Elusive Prince** in **Changlang district of Arunachal Pradesh.**
- At present, India has **1,327** species of butterfly as compared to **1,318** species in **2015**.
- A lepidopterist is a person who specialises in studying butterflies and moths.

Key Points

Striped Hairstreak:

- Scientific Name: **Yamamotozephyrus kwangtugenesis**
- Discovery: It is found in **Vijaynagarvillage of Changlang districtof Arunachal Pradesh, bordering Myanmar.**
- It was a subject of interest for the lepidopterists as its genus is diversified into several genera (i.e. sub-divisions) and thus, difficult to trace.

Habitat:

- It was first recorded in **Hainan province of China.**

- It is also found in **North America, from the Rocky Mountains**

Elusive Prince:

- **Scientific Name:** Rohana tonkiniana

- **Discovery:** It is found in Miao subdivision situated on the periphery of the Namdapha National Park.

- In India only a male specimen of the Elusive Prince was found.

- Initially it was considered as a variant of the Black Prince, but the study revealed that it is different and not recorded in India before.

- **Habitat:** It was first recorded in Tonkin in north Vietnam.

- **The Rohana Genus:** It has been represented in India by two species — the Black Prince (Rohana parisatis) and the Brown Prince (Rohana parvata).

4.5 Assam Keelback Rediscovered

- The **Assam keelback (Herpetoreas pealii), a snake endemic to Assam,** has been found **129** years after it was last spotted by **British tea planter Samuel Edward Peal in 1891.**

Key Points

- The snake was considered a lost species since no sighting had been reported since its discovery in **1891**.

- In 2018, it was found in the **Poba Reserve Forest (RF)** by a team of scientists from the **Wildlife Institute of India (WWI),** who were retracing the steps of the Abor Expedition.

- **Abor Expedition** was a military expedition by the British against the Abors in **1911**.

Assam Keelback:

- The non-venomous snake was named after Samuel Peal and the place where it was found.

- It is small — about **60 cm** long, brownish, with a patterned belly.

- It has a unique genus (Herpetoreas) belonging to a smaller group of four species, found in Eastern and Western Himalayas, South China and Northeast India.

- It is categorised as **'data deficient'** in the **International Union for Conservation of Nature (IUCN) list.**

- This is the worst category because there is practically no information available about it and it is difficult to determine its status.

Poba Reserve Forest:

- Poba RF is located along the Assam-Arunachal border, in Assam.

- The National Highway -15 passes through the reserved forest.

- The reserved forest is now under threat due to destruction of forest cover and random hunting, poaching and illegal collection of forest resources by unscrupulous people.

4.6   Globba andersonii: Rediscovered Plant Species

- A team of researchers have **"rediscovered"** a rare plant species called **Globba andersonii** from the **Sikkim Himalayas.**

- The species has been found near the **Teesta river valley** region after a gap of nearly **136 years.**

- The earliest records of the collection of this plant were dated between the period **1862-70** by **Scottish botanistThomas Anderson** from **Sikkim and Darjeeling**. Then, in **1875**, the British botanist Sir George King, had collected it from the Sikkim Himalayas.

Key Points

Features:

- The plant, known commonly as **'dancing ladies'** or **'swan flowers'** was thought to have been extinct until its **"re-collection",** for the first time since **1875**.

- Globba andersonii are characterised by white ?owers and non-attached anthers (the part of a stamen that contains the pollen).

- The species has been listed as **"Endangered"** on the IUCN Red List of Threatened Species.

Habitat:

- It is also termed as **"narrowly endemic"** as the species is restricted mainly to the Teesta River Valley region which includes the Sikkim Himalayas and Darjeeling hill ranges.

- The plant usually grows in a dense colony as a lithophyte (plant growing on a bare rock or stone) on rocky slopes in the outskirts of evergreen forests.

- It is especially prevalent near small waterfalls along the roadside leading to these hill forests, which are 400-800 m. above sea level.

4.7   Tillari Conservation Reserve Notified

- The **Maharashtra Government** has declared **29.53 sq km** area of Dodamarg forest range in Sindhudurg district as **'Tillari Conservation Reserve'.**

Key Points

Tillari Conservation Reserve:

- Tillari is the seventh wildlife corridor in the state to be declared as a 'conservation reserve'.

- The area covering nine villages in the forest range is known to serve as a corridor and even as a habitat for the population of tigers and elephants moving between the three states of Goa, Karnataka and Maharashtra.

- It connects Mhadei sanctuary in Goa and Bhimgad in Karnataka.

- It has semi-evergreen forest, tropical moist deciduous forests, and a number of unique trees, butterflies, and flowers.

- Conservation Reserves in Maharashtra:

- Maharashtra has 62 conservation reserves, of which 13 are in the western ghats.
- Tillari is a reserve in western ghats.

Conservation Reserves in India:

- Conservation reserves and community reserves are terms denoting protected areas of the country which typically act as buffer zones to or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved and protected forests.
- Such areas are designated as conservation areas if they are uninhabited and completely owned by the Government of India but used for subsistence by communities and community areas if part of the lands are privately owned.
- These protected area categories were first introduced in the Wildlife (Protection) Amendment Act of 2002 - the amendment to the Wildlife Protection Act of 1972.
- These categories were added because of reduced protection in and around existing or proposed protected areas due to private ownership of land and land use.
- As of July 2019, there were 88 conservation reserves and 127 community reserves in India.

4.8 Reconstitution of Central Zoo Authority

- Recently, the **Ministry of Environment, Forest and Climate Change** has reconstituted the **Central Zoo Authority (CZA)** to include an expert from the **School of Planning and Architecture, Delhi,** and a molecular biologist.

Key Points

- The CZA is a statutory body under the **Ministry of Environment, Forest and Climate Change**. It was constituted in **1992** under the **Wildlife (Protection) Act, 1972.**
- **Members:** It is chaired by the Environment Minister and has 10 members and a member-secretary.
- **Objective:** The main objective of the authority is to complement and strengthen the national effort in conservation of rich biodiversity.
- **Functioning:** The authority provides recognition to zoos and is also tasked with regulating the zoos across the country.
- It lays down guidelines and prescribes rules under which animals may be transferred among zoos nationally and internationally.
- It coordinates and implements programmes on capacity building of zoo personnel, planned breeding programmes and ex-situ research.

Elephant Deaths in Botswana

- In the past two months, hundreds of elephants have died mysteriously in **Botswana's Okavango Delta.**

Key Points

- The cause of the deaths is yet to be established. However, poaching has been ruled out since the dead elephants were found with tusks.

- Several live elephants appeared to have been weak, lethargic and skeletal, with some showing signs of disorientation, difficulty in walking or limping.

- Okavango Delta: It is one of the very few major interior delta systems that do not flow into a sea or ocean.

- This delta comprises permanent marshlands and seasonally flooded plains.

- The delta covers part of **Kalahari Desert** and owes its existence to the **Okavango (Kavango) River.**

- It is home to some of the world's most endangered species of large mammal, such as the **cheetah, white rhinoceros, black rhinoceros, African wild dog and lion.**

- **Botswana:** It is a landlocked country in **Southern Africa**. Its **70%** territory is covered by Kalahari Desert.

- Botswana has the world's largest elephant population, estimated to be around 130,000.

- It is Africa's oldest continuous democracy.

4.9 Urban forest created at polluted ITO in Delhi

- The **Union Minister of Environment, Forest and Climate Change Prakash Javadekar** along with **CAG Rajiv Mehri** inaugurated the **dense urban forest**. The forest has been created in a park adjacent to the **ITO metro station, Delhi.**

- It has been created by planting at least **12,000** saplings of **59** indigenous tree species. It has been built by the government's official auditor comptroller and auditor general.

Highlights:

- The Urban Forest is made up of trees that are native to the area.

- There are three dimensional, multi-layered communities having 30 times the surface area of the greenery of single-layered lawns, and have more than 30 times the ability to protect against natural disasters and to conserve the environment.

- The move comes as the **Air Quality Index (AQI)** of Delhi has become an increasing cause of concern in the past years. Also, the ITO crossing of New Delhi has recorded particularly high air pollution levels.

- The forest creation will help in reducing the temperature by as much as 14 degrees & increase the moisture by more than **40%.**

- **Urban forest** has the capacity to restore habitat for **bees, butterflies, birds, and microfauna**

4.10 Increasing E-waste by 38%

- According to a recent **United Nations University (UNU) report,** global **e-waste** will increase by **38%** in the decade between **2020 and 2030.**

- UNU is a global think tank and postgraduate teaching organisation headquartered in **Japan**.
- UNU's mission is to resolve the pressing global problems of human survival, development and welfare that are the concern of the United Nations, its peoples and the member states.

Key Points

Data Analysis of 2019:

- There was **53.6 million tonnes (MT) e-waste in 2019**, which is a nearly **21%** increase in just five years.
- Asia generated the **greatest volume (around 24.9 MT)** followed by the **Americas (13.1 MT)** and **Europe (12 MT).** Africa and Oceania generated **2.9 MT and 0.7 MT** respectively.
- Most E-waste consisted of small and large equipment like screens and monitors, lamps, telecommunication equipment etc and temperature exchange equipment.
- Less than **18%** of the e-waste generated in **2019** was collected and recycled.
- E-waste consisting of gold, silver, copper, platinum and other high-value, recoverable materials worth at least **USD 57 billion** was mostly dumped or burned rather than being collected for treatment and reuse.
- The number of countries that have adopted a national e-waste policy, legislation or regulation has increased from **61 to 78** and includes India.
- It is far from the target set by the International Telecommunication Union to raise the percentage of countries with e-waste legislation to **50%.**

Concerns:

- **Toxicity:** E-waste consists of toxic elements such as **Lead, Mercury, Cadmium, Chromium, Polybrominated biphenyls and Polybrominated diphenyl.**
- **Effects on Humans:** Some of the major health effects include serious illnesses such as lung cancer, respiratory problems, bronchitis, brain damages, etc due to inhalation of toxic fumes, exposure to heavy metals and alike.
- **Effects on Environment:** E-waste is an environmental hazard causing groundwater pollution, acidification of soil and contamination of groundwater and air pollution due to the burning of plastic and other remnants.

E-waste in India

- Structured management of e-waste in India is mandated under the **E-Waste (Management) Rules, 2016**.
- Some of the salient features of the rules include **e-waste classification, extended producer responsibility (EPR), collection targets and restrictions** on import of e-waste containing hazardous materials.

- There are **312** authorised recyclers of e-waste in India, with the capacity for treating approximately 800 kilo tons annually. However, formal recycling capacity remains underutilised because over **90%** of the e-waste is still handled by the informal sector.

- Almost over a million people in India are involved in manual recycling operations. Workers are not registered so it is hard to track the issues of employment such as **workers' rights, remunerations, safety measures, etc.**

- Labourers are from the vulnerable sections of the society and lack any form of bargaining power and are not aware of their rights. This has a serious impact on the environment since none of the procedures is followed by workers or local dealers.

4.11 <u>Kaziranga National Park</u>

According to **Kaziranga National Park** authorities around **80%** of its area has been inundated due to floods.

Key Points

Location: It is located in the State of Assam and covers **42,996Hectare (ha).** It is the single largest undisturbed and representative area in the Brahmaputra Valley floodplain.

Legal Status:

- It was declared as a **National Park in 1974.**

- It has been declared a tiger reserve since **2007**. It has a total tiger reserve area of **1,030 sq km** with a core area of **430 sq. km.**

International Status:

- It was declared a UNESCO World Heritage Site in **1985**.

- It is recognized as an Important Bird Area by **BirdLife International.**

Important Species Found:

- It is the home of the world's most one-horned rhinos. Pobitora Wildlife Sanctuary has the highest density of one-horned rhinos in the world and second highest number of Rhinos in Assam after Kaziranga National Park.

- Much of the focus of conservation efforts in Kaziranga are focused on the 'big four' species— Rhino, Elephant, Royal Bengal tiger and Asiatic water buffalo.

- The **2018 census** had yielded **2,413 rhinos** and approximately **1,100 elephants.**

- As per the figures of tiger census conducted in **2014**, Kaziranga had an estimated **103 tigers**, the third highest population in India after **Jim Corbett National Park (215)** in **Uttarakhand** and **Bandipur National Park (120) in Karnataka.**

- Kaziranga is also home to 9 of the 14 species of primates found in the Indian subcontinent.

Rivers and Highways:

- The **National Highway 37** passes through the park area.
- The park also has more than **250** seasonal water bodies, besides the **Diphlu River** running through it.

Other national parks in Assam are:

- Dibru-Saikhowa National Park,
- Manas National Park,
- Nameri National Park,
- Rajiv Gandhi Orang National Park.

4.12 Nagarahole National Park: Karnataka

- Recently, the **Karnataka Forest Department** has decided to put in place a traffic monitoring mechanism along the roads adjacent to **Nagarahole National Park.**

Key   Points

Time-stamped Card System:

- The Forest Department will introduce a time-stamped card system for vehicles passing through the roads, adjacent to Nagarahole National Park, which have high traffic density 24x7.
- The time stamped card will have complete details on the speed limit to be maintained and the exit time at the next check post.
- Such a system is already in place on the road cutting through Nagarahole Tiger Reserve.

Issues Involved:

- **Pollution:** In the absence of any monitoring mechanism, littering along the road is high as many motorists stop midway on the road adjacent to the forests for lunch break and leave behind plastic water bottles and liquor bottles.
- **Road Kills:** The heavy vehicle movement along the stretch also causes road kills some of which come to light if the animal dies on the road. But in most cases the injured animals tend to drag themselves into the forests and their subsequent deaths do not come to light.
- **Man-made Forest Fires:** The forests adjacent to the highway also witness forest fires and illegal tree felling.

Benefit of Road Monitoring

- It will help ensure that motorists don't stop midway and litter the area or cause disturbance to wildlife.
- It will also ensure better compliance of forest laws by motorists and will also minimise road kills.

4.13 Indian Railways to use more Renewable Energy

- The **Indian Railways** has decided to be self-reliant for its energy needs by utilizing its vacant lands for **Renewable Energy (RE)projects**.
- It will utilize solar energy for meeting its traction (action of drawing or pulling something over a surface) power requirement.

Key Points

- In **January 2020**, it was announced that the entire network of the Indian Railways will run on electricity by **2024** and become a net-zero emission network by **2030**.
- Indian Railways is adopting an innovative concept of installation of solar projects along operational railway lines. This will help in:
- **Preventing encroachment.**
- Enhancing the **speed and safety of trains**.
- Reduction of infrastructure costs due to direct **injection of solar powerinto the traction network**.
- **Railway Energy Management Company Limited (REMCL)** is working continuously to further proliferate the use of solar energy on mega-scale.
- With these mega initiatives, Indian Railways is leading India's fight against climate challenge and is taking significant steps towards meeting its ambitious goal of being a net-zero carbon emissions organisation and meeting India's **Intended Nationally Determined Contributions (INDC)** targets.
- This would also help in making Indian Railways a complete **'Green mode'** of transportation and **'Atmanirbhar (energy self-sufficient transport organisation)'.**

Achievements:

- Energy procurement from various solar projects like **3 MWp solar plant** set up at **Modern Coach Factory (MCF) Raebareli (Uttar Pradesh).**
- About **100 MWp** rooftop solar systems on various stations and buildings of Railways.
- A project of **1.7 MWp** near **Bina Traction Sub Station, Bina (Madhya Pradesh)** connected directly to **Overhead Traction System (OTS)** will be commissioned shortly.
- This is the first of its kind project in the world authorised by Indian Railways in collaboration with **Bharat Heavy Electricals Limited (BHEL).**
- **BHEL** is one of the **seven Maharatna companies.**
- The project was undertaken by BHEL under its **Corporate Social Responsibility (CSR) scheme.**
- It involves the adoption of innovative technology for converting **Direct Current (DC)** to single-phase **Alternating Current (AC)** for feeding directly to Railway's overhead traction system.
- It can produce approximately **25 lakh** units of energy annually and will save around **Rs. 1.37 crore** for Railways every year.

4.14 Himalayan butterfly is India's largest Butterfly

- The **Himalayan butterfly** named **Golden Birdwing** has become **India's largest butterfly** and broke the record set by an unknown specimen, which was held for **88 years.**
- The unknown specimen was recorded by a **British Army officer Brigadier William Harry Evans** in **1932**.

Highlights:

- The wingspan of the female of the Golden Birdwing species is **194 mm** which is marginally larger than the Southern Birdwing. The wingspan of the Southern Birdwing is **190 mm**. The female Golden Birdwing was recorded from **Didihat, Uttarakhand**

- The length of the largest female **Golden Birdwing's forewing is 90 mm.**

- Also, the male **Golden Birdwing, TroidesAeacus**, is much smaller at **106 mm.**

- The three species followed by the Golden Birdwing are:

    Common Windmill (Byasapolyeuctes) at **98 mm**

    Great Windmill (Byasadasarada) at **96 mm**

    Common Peacock (Papiliobianor) at **78 mm**

- The smallest butterfly is the **Quaker (Neopithecopszalmora)** with a wingspan of **18 mm** and forewing length of **8 mm**

4.15 Virtual Climate Action Ministerial

- Recently, the **4th edition of the virtual Ministerial on Climate Action** was organised to advance discussions on implementation of the Paris Agreement under the **United Nations Framework Convention on Climate Change (UNFCCC).**

Key Points

The Ministerial:

- It was co-chaired by **European Union, China and Canada**.

- The participating countries exchanged their views on how they are aligning economic recovery plans amid Covid-19, with the Paris Agreement.

- India highlighted that developed country parties have not fulfilled their promise for extending financial and technological support to developing countries as envisaged under UNFCCC and its Paris Agreement.

- India hopes that in the remaining **5 months of 2020,** the promised amount will be mobilized and delivered, for further strengthening climate actions in developing countries.

- The developed countries had promised to provide **USD1 trillion by 2020.**

4.16 India's Efforts in Combating Climate Change:

- India has provided **80 million LPG** connections under the **Pradhan Mantri Ujjwala Yojana (PMUY)** in rural areas, providing the people with clean cooking fuel and a healthy environment.

- It has distributed more than **360 million LED bulbs** under the **UJALA scheme**, which has led to energy saving of about **47 billion** units of electricity per year and reduction of **38 million tonnes** of CO2 per year.

- India has also shifted from **Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI)** emission norms from **1st April 2020** which was earlier to be adopted by **2024**.
- It had levied a coal cess as part of one of the most explicit green initiatives.
- Under Smart Cities Mission, **Climate Smart Cities Assessment Framework 2019** has been launched which intends to provide a clear roadmap for cities and urban India towards combating climate change through adoption of both mitigation and adaptation measures.

Achievements of India in Combating Climate Change:

- India has achieved a reduction of **21%** in emission intensity of its **Gross Domestic Product (GDP)** between **2005 and 2014**, thereby on its way to achieving its voluntary target under its **Intended Nationally Determined Contributions (INDC).**
- India had pledged to cut emission intensity of its **GDP by 33-35%** by **2030** below **2005** levels.
- Its renewable energy installed capacity has increased by **226%** in the last 5 years and stands more than **87 gigawatts (GW).**
- India has a target of installing **175 GW** of renewable power capacity by **2022** under its **INDC.**
- The share of non-fossil sources in installed capacity of electricity generation increased from **30.5% in March 2015** to **37.7% in May 2020.**
- It has further announced the aspirational target of increasing its renewable energy capacity to **450 GW.**
- India has pledged to increase the share of non-fossil fuels-based electricity to **40% by 2030** under INDC.
- India's total forest and tree cover is **8,07,276 sq. km**. which is **24.56%** of the total geographical area of the country.
- India has agreed to enhance its forest cover which will absorb **2.5 to 3 billion tonnes** of CO_2 by 2030.

4.17 Marmots

- Recently, reports of an outbreak of bubonic plague in Mongolia, China and far east Russia have emerged, caused mainly by **Tarbagan Marmot (a species of Marmot).**
- It has been compared to the Covid-19 pandemic which was apparently spread by the consumption of bat meat.

Key Points

General Description:

- Marmot (genus Marmota) belongs to the squirrel family (Sciuridae) within the order Rodentia.
- These have almost 15 species and the closest living relatives of marmots are ground squirrels and prairie dogs.
- Prairie dogs are herbivorous burrowing rodents native to the grasslands of North America.

- Marmots are well suited for life in cold environments and have small fur-covered ears, short, stocky legs, and strong claws for digging.
- Marmots are diurnal (active during the day) and are almost entirely vegetarian.

Habitat:

- They are found primarily in the continents **of Europe, Asia and North America.**
- South Asia or the Indian Subcontinent is home to the Himalayan Marmot and the Long-tailed Marmot (both are Least Concerned in the IUCN Red List).
- Tarbagan or Mongolian Marmot (Endangered) is found in **Mongolia, China and parts of Russia.**

Importance:

- While digging burrows, marmots increase aeration in the soil which increases nutrient circulation and helps different plants to propagate.
- Marmots also play a very important role in **Himalayan ecology**. They are prey species for predators including the **snow leopard, red fox, hawks, eagles, etc.**

Threats:

- **Marmots** are hunted for their meat in **China and Mongolia.**
- High altitude regions lack proteins. Pastoral nomads usually eat these when they do not have any other means of sustenance.
- Marmots are also hunted for their fur.

4.18 National Gene Bank

Recently, the **National Medicinal Plants Board (NMPB)** under the **Ministry of AYUSH** and the **National Bureau of Plant Genetic Resources (NBPGR)** under the **Ministry of Agriculture & Farmers' Welfare** have signed a **Memorandum of Understanding (MoU).**

The purpose of this MoU is to conserve the **Medicinal and Aromatic Plants Genetic Resources (MAPGRs)** in the **National Gene Bank (NGB).**

Key Points

- **Establishment**: The National Gene Bank was notified in **1996-97.**
- **Hosted By:National Bureau of Plant Genetic Resources (NBPGR), New Delhi.**
- **Purpose**: To conserve the **Plant Genetic Resources (PGR)** for future generations in the form of seeds, genomic resources, pollen etc.

Functioning:

- The NGB has four kinds of facilities, namely, **Seed Genebank (- 18°C), Cryogenebank (-170°C to - 196°C), In vitro Genebank (25°C), and Field Genebank,** to cater to long-term as well as medium-term conservation.

- It stores different crop groups such as **cereals, millets, medicinal and aromatic plants and narcotics, etc.**

Other Facilities:

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

4.19 National Medicinal Plants Board

- In order to promote the medicinal plants sector, the Government of India set up the National Medicinal Plants Board (NMPB) on **24th November 2000.**
- Currently the board is working under the Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha& Homoeopathy).
- The primary mandate of NMPB is to develop an appropriate mechanism for coordination between various ministries/ departments/ organizations and implementation of support policies/programs for overall (conservation, cultivation, trade and export) growth of medicinal plants sector both at the Central /State and International level.

4.20 National Bureau of Plant Genetic Resources

- The **'National Bureau of Plant Introduction'** was renamed as **'National Bureau of Plant Genetic Resources'** (NBPGR) in **January 1977.**
- It is one of the **Indian Council of Agricultural Research (ICAR) Institutes.**
- **ICAR** is an autonomous organisation under the **Ministry of Agriculture & Farmers' Welfare.**
- It is a nodal organisation in India for management of **Plant Genetic Resources (PGR).**
- It has played a pivotal role in the improvement of various crop plants and diversification and development of agriculture in India through germplasm introduction from various institutes/organizations located in foreign countries and germplasm collection from within the country and abroad and conservation thereof.
- Germplasm is a live information source for all the genes present in the respective plant, which can be conserved for long periods and regenerated whenever it is required in the future.
- The **NBPGR has linkage with National Active Germplasm Sites (NAGS)** for the management of active germplasm of field and horticultural crops.
- NAGS are located at **NBPGR regional stations**, other crop-based **ICAR institutes or State Agricultural Universities.**
- It is headquartered in New Delhi and has 10 regional stations.

4.21 Dehing Patkai Wildlife Sanctuary

- The **Assam government** has decided to upgrade **Dehing Patkai Wildlife Sanctuary into a National Park.**

- The announcement comes just months after the **National Board of Wildlife (NBWL)** gave conditional clearance to a coal mining project by **Coal India Limited (CIL)** in the **Dehing Patkai Elephant Reserve.**

Key Points

- As a national park, its importance will increase and new rules will bring increased vigilance to the area. While the first proposal to accord national park status to the region dates back to 1995, Dehing Patkai was declared a wildlife sanctuary in 2004.

- Description: Dehing Patkai Wildlife Sanctuary is located within the larger Dehing Patkai Elephant Reserve, which spreads across the coal- and oil-rich districts of Upper Assam (Dibrugarh and Tinsukia districts).

- The Dehing Patkai Wildlife Sanctuary is also known as the **Jeypore Rainforest.**

- Dehing is the name of the river that flows through this forest and Patkai is the hill at the foot of which the sanctuary lies.

- The oldest refinery of Asia in Digboi and 'open cast' coal mining at Lido are located near the sanctuary.

- It is famous for Assam Valley Tropical Wet Evergreen Forests bordering Arunachal Pradesh.

- **Fauna:** Rare fauna found in the region include **Chinese pangolin, flying fox, wild pig, sambar, barking deer, gaur, serow and Malayan giant squirrels.**

- It is the only sanctuary in India which is home to seven different species of wild cats - **tiger, leopard, clouded leopard, leopard cat, golden cat, jungle cat and marbled cat.**

- Assamese macaque, a primate found in the forest, is in the red list of Near Threatened species.

- It has the highest concentration of the rare endangered White Winged Wood Duck.

- **Flora:** Dehing Patkai is a deciduous rainforest interspersed with semi-evergreen and lush green flora.

- **Sixth National Park:** Post upgradation, Dehing Patkai will be the sixth national park in Assam — the other five being **Kaziranga, Nameri, Manas, Dibru-Saikhowa and Rajiv Gandhi Orang National Park.**

4.22 Ophiocordyceps Nutans Fungi

- Recently, researchers have found **Ophiocordyceps nutans (fungi)** for the first time in central India, while setting out on a plant survey at the **Kanger Valley National Park in Bastar, Chhattisgarh.**

- Earlier, these have been reported in India only from the **Western Ghats.**

Key Points

- Ophiocordyceps nutans host on a specific insect, **Halyomorpha halys.**
- **Halyomorpha halys** is commonly known as the **stink bug** and is a pest to forest trees and agricultural crops.
- The stink bug is known to damage the flower and fruits of **soybean, green beans, apple, pear, etc.**

Mechanism:

- The fungi infect the insect when alive and develop **fungal mycelium (the vegetative part of a fungus)** inside its **thorax (chest).**
- The **spores (single-celled reproductive units)** sprout out from between the insect's thorax and head, killing the insect but it continues to take nutrition from the dead body.
- The fungi are very host-specific, so the spores travel and infect stink bugs only.

Importance:

- Studies have shown that these fungi can be used as a biological pest control agent against the stink bugs.
- Exploring these fungi as a pesticide will help reduce the harmful effect of chemicals in fields.
- Several species of the Ophiocordyceps fungi have medicinal properties.
- Reports show that China has been traditionally using it.
- In the Western Ghats, the local people use these fungi as an immune stimulator.
- These are rich in biologically active metabolites, vitamin C, phenolic compounds (disinfectant in household cleaners), and also have anti-inflammatory and antioxidant properties.
- Scientists claim that it contains a component called **'cordycepin'** which has anti-cancer properties.

4.23 Rare Orchids in India

- Recently, two **rare orchid species** i.e. **Tiger orchids (Grammatophyllum speciosum)** and **Ground orchids (Eulophia obtusa)** have been found to be blooming in different parts of the country after a gap of many years.

Key Points

Tiger Orchid:

- **Scientific Name:Grammatophyllum speciosum**
- **Characteristics:** It has large and resplendent flowers which resemble the **tiger skin.**
- It flowers in alternate years and remains in bloom for about a month.
- **Geographical Distribution:** These **epiphytic plants are not native to India,** and are endemic to **southeast Asia i.e.Indonesia and Philippines.**
- An epiphyte grows on the surface of a plant and derives its moisture and nutrients from the **air, rain, water or from debris accumulating around it.**

- **It is found to be in full bloom at the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI) Kerala, where it was introduced in the 1990s.**

Ground Orchid:

- **Scientific Name: Eulophia obtusa**
- **Rediscovery:** It has been rediscovered in **Dudhwa Tiger Reserve, Uttar Pradesh after 118 years.**
- It was last recorded in **Pilibhit, Uttar Pradesh in 1902.**
- **Geographical Distribution:** The species is originally from **Uttarakhand**.
- It was collected by botanists from Gangetic plains but there have been no sightings in the past 100 years. In 2008, the plant species was sighted in Bangladesh for the first time.
- **Characteristics:** It has **white flowers and bright pink hues.**
- **Protection Status**: Listed as **"critically endangered"** in the **International Union for Conservation of Nature (IUCN) Red List of endangered species.**

4.24 Bon Bibi: Sundarban

- A centuries-old folk theatre form and the worship of a forest goddess i.e. **Bon Bibi** has helped the natives of the **Sundarban survive** by understanding the power of nature and the limits of human needs.

Key Points

- Bon Bibi: Bon Bibi is a deity of the forest and the **central character of Bon Bibir Palagaan,** a musical drama unique to the Sundarbans.
- Shrines to Bon Bibi and her twin brother **Shah Jongoli** dot the landscape of the **Sundarbans.**
- The followers of Bon Bibi are fishermen, crab-collectors and honey-gatherers who live in the mangroves with wild animals such as tigers and crocodiles to earn a livelihood.
- They believe that only Bon Bibi protects them when they enter the forest and survive in tiger dominated areas.
- **Bon Bibir Palagaan:** People express their belief in Bon Bibi through Bon Bibir Palagaan, a dramatic storytelling form that is enacted throughout the island.
- Traditionally, the performances are held near Bon Bibi temples or villages bordering the forests.

Significance:

- An unwritten code believed to be given by the **deity prohibits islanders** from carrying guns or weapons into the forest.
- They must enter the forest only if they absolutely need to earn a livelihood and not take more — **honey or crabs, fish or prawns** — than they need.
- They must not pollute the forest in any way, by smoking, defecating or washing utensils.

- According to a **local lore, poachers, pirates** and those who disobey Bon Bibi are attacked by tigers as punishment.

4.25 The Tiger Census of India sets a New Guinness Record

- The fourth cycle of the **All India Tiger Estimation 2018**, results of which were declared to the **nation on Global Tiger Day** last year by **Prime Minister, Shri Narendra Modi** has entered the **Guinness World Record** for being the world's largest camera trap wildlife survey.

World's largest camera trap wildlife survey

- Terming this achievement a great moment**, union environment minister, shri prakash Javadekar** in a tweet message said that this is a shining example of **Atma nirbhar Bharat** which in the **Prime Minister's own words**, was attained through Sankalp se siddhi.

- The Environment Minister also said India, under the leadership of Prime Minister Shri Narendra Modi, has fulfilled its commitment to double the number of tigers four years before the deadline.

- The country now has an estimated **2967** tigers according to the most recent census. With this number, India is home to nearly **75 per cent** of the global tiger population and has already fulfilled its determination to double **tiger numbers**, made in **St. Petersburg in 2010,** well before the **2022** target year.

- The citation at the Guinness World Record website reads- "The fourth iteration of the survey – conducted in 2018-19 - was the most comprehensive to date, in terms of both resource and data amassed. Camera traps (outdoor photographic devices fitted with motion sensors that start recording when an animal passes by) were placed in **26,838** locations across **141** different sites and surveyed an effective area of **121,337 square kilometres (46,848 square miles).**

- In total, the camera traps captured **34,858,623 photographs of wildlife (76,651 of which were tigers and 51,777 were leopards; the remainder were other native fauna).** From these photographs, **2,461** individual tigers (excluding cubs) were identified using stripe-pattern-recognition software.

About Project Tiger

- As well as unprecedented camera trap usage, the 2018 **"Status of Tigers in India"** assessment also conducted extensive foot surveys that covered **522,996 km (324,975 mi) of trails** and sampled **317,958 habitat plots for vegetation and prey dung.** It's estimated that the total area of forest studied was 381,200 **km2 (147,181 sq mi)** and cumulatively the collection and review of data equated to some **620,795 labour-days."**

- The quadrennial **All India Tiger Estimate** is managed by the **National Tiger Conservation Authority** with technical backstop from **India 's Wildlife Institute** and implemented by departments and partners from State Forest.

- The latest **2018** findings showed that India now has an estimated **2967** tigers out of which photographed **2461** individual tigers, a whopping **83 percent** of the tiger population, reflecting the detailed nature of the survey.

- There is hardly any equivalent of such a based species-oriented program as Project Tiger in the world, which began with 9 Tiger Reserves, currently with 50 tiger reserves. India has now firmly established a leading role in the conservation of tigers, with its benchmarking practices viewed as a gold standard worldwide

4.26 Indian Railways to become Green Railway by achieving net-zero carbon emission

- The **Ministry of Railways** has announced mission mode with the goal of transforming **Indian Railways** into **Green Railways** by the year **2030**.

- It has taken a number of major initiatives towards mitigation of global warming and combating climate change.

Highlights:

- Indian Railways, as a part of mission mode, has planned to electrify All routes on Broad Gauge (BG) **network** by **December 2023.**

- Indian Railways is currently focusing on the electrification of last-mile connectivity & missing links. Under this, **365 km** of major connectivity work has been commissioned amid the COVID-19 pandemic.

- Indian Railways strategy to achieve net-zero carbon emission includes Railway Electrification, improve the energy efficiency of locomotives and trains and fixed installations, green certification for installations/stations, fitting bio-toilets in coaches and switching to renewable sources of energy, among others.

- So far, Indian Railways has completed electrification of more than **40,000 Route km (RKM) (63% of Broad Gauge routes).** Out of the total 18,605 km electrification work was done during **2014-20.** Earlier, only **3,835 km** electrification work was completed during the period 2009-14. Indian Railways has fixed a target of electrification of **7000 RKM for the year 2020-21.**

4.27 Decrease in Dolphin Number: Chambal River

- According to the latest census report prepared by the **Madhya Pradesh forest department**, the number of dolphins in **Chambal river** has been reduced by **13% in 4 years.**

- There are just **68 dolphins** left in the **435-kilometre-long Chambal river** sanctuary which passes through three States i.e. **Madhya Pradesh, Uttar Pradesh and Rajasthan**. **Gangetic Dolphins** are the sanctuary's main attraction.

- The decreasing trend is continuing from **2016** when there were 78 dolphins.

Key Points

- The maximum carrying capacity of **Dolphins in Chambal is 125**.
- The carrying capacity of an environment is the maximum population size of a biological species that can be sustained in that specific environment, given the food, habitat, water, and other resources available.
- The dolphins were spotted for the first time in **1985 in Chambal river (a tributary of Yamuna) near Etawah**, **Uttar Pradesh**. That time, the number was more than **110**.

Reasons:

- **Unfavourable Habitat:** It faces the threat of hunting and entanglement in fishing gear due to fragmented habitats.
- **Poaching:** Fragmented habitats lead to the problem of poaching for not only Dolphins, but also for Gharials.
- **Illegal Sand Mining:** It is rampant in Bhind and Morena in MP and Dholpur in Rajasthan and putting the whole ecosystem of the river in danger.
- Further, the forest team never gets support from locals.
- In **2006**, the **Supreme Court's Central Empowered Committee (CEC)** ordered a ban on mining in the sanctuary area to save the **flora and fauna of the river.**
- **Consumption of Water:** Chambal is a lifeline for three states i.e. **MP, UP and Rajasthan** and the locals are withdrawing water daily.
- It has led to gradual decrease in the water levels and needs to be addressed properly to save the dolphins as well as gharial.
- **Lack of Studies:** Dolphins are a sensitive animal. There is a need of study on their favourable environment and communication system.
- The **Forest Department of MP** has collaborated with the scientists of **Wildlife Institute of India (WII)** to do a research for safeguarding and increasing the population of dolphins in Chambal.

4.28 Melghat Tiger Reserve

- The **Chief Minister of Maharashtra** has requested the **Union government** for considering an alternative alignment for the **Akola-Khandwa rail line** that passes through the **Melghat Tiger Reserve.**

Key Points

Location:

- It lies in **Melghat Forests of Amravati district** in Vidarbha region of Maharashtra bordering Madhya Pradesh in the **North and East.**
- It is a part of the **Satpura-Maikal landscape.**

Tiger Reserve:

- It is spread over an area of **2768.52 sq km.**

- It is among the first nine places in the country designated as tiger reserves in **1973-74.**

- Project Tiger was launched in **1973**.

- It was the first Tiger Reserve to be declared in the State of Maharashtra.

- Protected Areas within the Reserve:

- It consists of **Gugamal National Park, Wan, Ambawarba and Narnala sanctuaries.**

Features:

- It is the Deccan trap and underlying rock is basalt in one form or another.

- It has various species of mammals including **Tiger, Leopard, Sloth bear, Gaur, etc.**

- The forests are of deciduous nature and have been classified as 'dry deciduous forests'. Most prominent is Teak.

- It forms a very important catchment to Tapi river systems.

- The Korku tribe adds to the cultural diversity of the Reserve.

- Other Tiger Reserves in Maharashtra:

- Tadoba-Andhari

- Pench

- Sahyadri

- Navegaon-Nagzira

- Bor

4.29 Bhagirathi Eco-Sensitive Zone master plan approved

Recently, the Ministry of Environment, Forest and Climate Change (MoEF&CC) has approved the Zonal Master Plan for the Bhagirathi Eco-Sensitive Zone to pave the way for faster execution of Char Dham Road Project.

Key Points

Background:

- In 2012, the MoEF&CC issued a gazette notification declaring the watershed area along the stretch of river Bhagirathi, covering 4,179.59 sq km from Gaumukh to Uttarkashi, an Eco-Sensitive Zone (ESZ).

- ESZs are the ecologically important areas designated to be protected from industrial pollution and unregulated development under the Environment Protection Act of 1986.

- The 2012 notification was issued keeping in view the requirements of the local people without affecting their rights and privileges and also ensuring eco-friendly development for their livelihood security.

- It sought to protect the entire fragile Himalayan region by restricting hydropower projects of over 2 MW, riverbed mining and change of land use.

- However, it was amended in 2018 following Uttarakhand government's objection that the notification was 'anti-development.'
- The 2018 amendment approved land use change to meet the local needs including civic amenities and other infrastructure development in larger public interest and national security with the prior approval of State Government with due study of environmental impacts.
- It also allowed cutting of hills in eco-sensitive areas with proper study and construction on steep slopes in exceptional cases for the benefit of the community.

Zonal Master Plan (ZMP):

- The Bhagirathi Eco-Sensitive Zone notification mandates the State Government of Uttarakhand to prepare ZMP to be implemented under the supervision of the Monitoring Committee.
- The ZMP is based on watershed approach and includes governance in the area of forest and wildlife, watershed management, irrigation, energy, tourism, public health and sanitation, road infrastructure, etc.
- Watershed development approach is based on participatory planning following a bottom-up approach for developing a context appropriate plan for execution, strengthening of local level institution, conservation and appropriate management of watershed's natural resources.
- Watershed is a geo-hydrological unit draining into a common point by a system of drains.
- The approval of ZMP is expected to give a boost to conservation and ecology of the area and also to undertake developmental activities as permitted under ZMP.

4.30 <u>Char Dham Road Project:</u>

- The Char Dham project proposes to provide all-weather connectivity to Yamunotri, Gangotri, Badrinath and Kedarnath, and has 53 projects of 826 km length, involving an investment of Rs. 12,000 crore.
- Bhagirathi is the source stream of Ganga. It emanates from Gangotri glacier at Gaumukh at an elevation of 3,892 m.

Concerns:

- In a report prepared after the Kedarnath disaster (2015), the Geological Survey of India stated that road construction in mountains reactivates landslides as it disturbs the 'toe of the natural slope of the hill'.
- The Himalayas is the region where Indian tectonic plate goes under the Eurasian tectonic plate.
- Himalayas are in seismic zone V, thus a major earthquake can happen anytime.

4.31 <u>Brahmapuram Dumping Site: Kerala</u>

Recently, the National Green Tribunal (NGT) has issued an order pertaining to the case of legacy waste (old municipal solid waste) piling up at the Kochi Corporation's Brahmapuram dumpsite.

Key Points

The NGT Judgement:

- The Chairman and Member Secretary of the Kerala State Pollution Control Board (KSPCB) will be held liable if they fail to initiate prosecution and recover compensation from those responsible for the unscientific handling of waste at Brahmapuram.

- The progress (remediation of waste) appears to be very slow and is disregardful of the statutory and constitutional obligation of providing a clean environment.

- Further, the tribunal asked why there should be a bar on a single tender considering the critical situation.

- The government decided to float fresh Tenders as only one Agency had met the minimum eligibility criteria when an e-Tender for biomining of legacy waste at Brahmapuram was floated on 20th March, 2020.

- The Bench suggested that other available options (besides biomining) be considered for compliance with Solid Waste Management Rules, 2016.

- The tribunal expressed doubts on whether the leachate (dark liquid that gets generated within the solid waste) generated at the dumping yard could be treated in an ordinary septage treatment plant as it contained heavy metals.

Brahmapuram Dumpsite:

- Only 1% of the recyclable plastic waste is recovered while the remaining 99% ends up as heaps in the dumping yard.

- The leachate from the waste treatment plant at Brahmapuram is a major source of pollution of the river Kadambrayar.

- Legacy waste was found to be a reason for the fire outbreaks.

- In 2020, the government took over the task of scientific management of legacy waste accumulated at Brahmapuram waste dumping yard from the Kochi corporation by invoking the provision under Section 24(e) of the Disaster Management Act, 2005.

4.32 Municipal Solid Waste Management

- Municipal Solid Waste (MSW) Management is one of the most serious challenges to environment protection and although Solid Waste Management Rules have been framed in 2016, their implementation remains a problem.

- The local authorities are responsible for the development of infrastructure for collection, storage, segregation, transportation, processing and disposal of MSW.

- There are two major challenges of solid waste management:

- Managing the continuous flow of solid waste on a daily basis.

- Dealing with the legacy of neglect which has resulted in garbage heaps having built at dumpsites that were meant for waste processing and landfills.

- In July 2019, the NGT directed that each local body would have to pay a compensation of Rs. 10 lakh per month (for population of above 10 lakh); Rs. 5 lakh a month (for population between 5 lakh and 10 lakh), and Rs. 1 lakh per month for other local bodies for non-compliance with the Solid Waste Management Rules, 2016 from 1st April, 2020 till compliance.

- This compensation is equally applicable to local bodies found erring on the issue of remediation of legacy waste (to be completed by 7th April, 2021 statutorily).

- If local bodies are unable to bear financial burden, the liability will be of State Governments to take remedial action against the erring bodies.

- An environment monitoring cell may be set up in the office of Chief Secretaries of all States/UTs for compliance.

- Remediation process is expected to be done as per the guidelines issued by the Central Pollution Control Board (CPCB).

4.33 Assam's Flood and Kaziranga's Ecosystem

- The recent flood in Assam has led to heavy casualties, displacement of peoples and animals and destruction of property and environment.

- It has also led to inundation of 80% of the area of Kaziranga National Park.

Key Points

Reason behind Floods:

- Ill-maintained or poorly constructed river embankments are the main reason behind the flooding.

- One major feature of flood management in Assam is total dependence on embankments.

- Assam began constructing embankments in the 1960s and most of them have outlived their utility. Many of these started breaching or collapsing from the 1990s, more seriously from the 2000s.

- Massive deforestation in catchment areas of rivers or release of waters by dams upstream.

- Climate change is also a factor behind floods.

Floods in Kaziranga's Ecosystem:

- Experts believe that floods are necessary for Kaziranga by virtue of its riverine ecosystem. The system won't survive without water.

- Kaziranga National Park and Tiger Reserve (KNPTR) is sandwiched between the Brahmaputra river and the Karbi Anglong Hills. The entire area is formed by alluvial deposits from the Brahmaputra and its tributaries.

- The regenerative nature of floods helps replenish Kaziranga's water bodies and maintain its landscape, which is a mix of wetlands, grasslands and semi-evergreen deciduous forests.

- The floodwaters function as a breeding ground for fish, which are carried away by the receding waters into the Brahmaputra. i.e the Kaziranga's floods replenishes the Brahmaputra's stock of fish.
- The waters also help get rid of unwanted plants such as water hyacinth which collect in huge masses in the landscape.

Issues Involved:

- Frequent Floods: Earlier, a big flood would come once in ten years, now they come every other year.
- NH-37: When the flood water hits a certain level, the animal moves towards safer, higher ground in the Karbi Anglong hills. However, they have to cross NH-37 which cuts across the park, which leads to the killing of animals in road accidents.
- Animals are also killed by poachers who take advantage of their vulnerability.
- Human-animal Conflict: Animals also move towards villages in floods, this leads to human-animal conflict.

Steps taken during Floods:

- The authorities keep a track of updates from the Central Water Commission, and monitor water levels of the Brahmaputra tributaries upstream in Arunachal Pradesh.
- Camps are organised to create awareness against poaching and harming wild animals that are rendered vulnerable during the floods."
- When the floods hit, Section 144 of CrPC is imposed along NH-37, speed limits are enforced and fines levied. Barricades are also placed to help animals cross over to Karbi Anglong.

4.34 Bathynomusraksasa: Isopod Species

- Recently, **scientists** have reported the discovery of the first super giant isopod species in the **eastern Indian Ocean named'Bathynomusraksasa'.**
- It has been described as the **'cockroach of the sea'.**
- A team of researchers from Singapore discovered it while exploring waters of the **Indian Ocean in Bantan**, off the **southern coast of West Java in Indonesia in 2018.**

Key Points

- **Super Giant Isopod**: The Bathynomusraksasa is a super giant isopod in the genus Bathynomus.
- Isopods are marine invertebrates (animals without backbones) that belong to the greater crustacean group of animals, which also includes crabs and shrimp.
- They live in many different types of habitat, from mountains and deserts to the deep sea.
- Isopods that reach **50 cm** are referred to as supergiants. The largest isopod species are from the genus Bathynomus.

Features:

- It has 14 legs but uses these only to crawl along the bed of oceans in search of food.

- It measures around **50 cm in length**, which is big for isopods, which normally do not grow beyond **33 cm**.
- The only member of the isopod species that exceeds the raksasa in size is the Bathynomusgiganteus, which is commonly found in the deep waters of the western Atlantic Ocean.
- As a scavenger, it eats the remains of dead marine animals, such as whales and fish, but can also go for long periods without food, a trait that it shares with the cockroach.

Significance:

- It is the first recorded species of the genus Bathynomus from Indonesia.
- It is the sixth **'supergiant'** species from the Indo-West Pacific, and is one of the largest known members of the genus Bathynomus.
- It's discovery will contribute towards increasing knowledge about the deep sea.

4.35 Giant Sea Cockroaches were discovered in the Eastern Indian Ocean

- Researchers from **Singapore** discovered **a "Super Giant Isopod"** species, a cockroach, when they unexplored waters of the **Indian Ocean in Bantan, southern coast of West Java in Indonesia**. The new species has been named **"Bathynomusraksasa."**

Bathynomusraksasa:

- Bathynomusraksasa is a giant isopod in the genus Bathynomus. In general, the giant isopods are distantly related to crabs, lobsters, and shrimps (which belong to the order of decapods).
- The species is found in the cold depths of the Pacific, Atlantic, and Indian Oceans. The sea cockroach has 14 legs but uses these only to crawl. It is about **50 centimetres (1.6 feet)** in length. The Darth Vader appearance is because of the shape of the cockroach's head and compound eyes. Isopods that are in **50 cm length** are referred to as Supergiants.

About the project:

- A group of 31 researchers from **National Universtiy of Singapore** conducted the project. The researchers collected thousands of specimens through dredging, trawling, and various types of seafloor coring devices.
- During the mission, the researchers collected **12,000** deep-sea creatures comprising **800** species during the large-scale expedition. They also found 12 species that were not recorded in the scientific literature. The newly discovered creatures included **crabs, jellyfish, fish, molluscs, prawns, sponges, starfish, urchins, and worms**.

4.36 Concerns Over Drilling in Dibru-Saikhowa National Park

- The **National Green Tribunal (NGT)** has issued notices to the **Ministry of Environment, Forest and Climate Change (MoEFCC), Oil India Limited (OIL)** and two concerned State entities to

explain how environmental clearances for the seven proposed drilling sites in the **Dibru- Saikhowa National Park** were given.

- The NGT took note of the petitioners' contention that OIL did not carry out a biodiversity assessment study for the seven-well exploratory drilling project besides not conducting a public hearing as mandated by the **Environment Impact Assessment (EIA) Notification of 2006.**

Key Points

- OIL has clarified that its exploratory drilling project is "under" and not "in" the **765 sq km Dibru-Saikhowa National Park**. This argument is based on **Extended Reach Drilling (ERD)** enabled drilling of wells up to a depth of approximately 4 km from an existing well plinth without entering the protected area.

- OIL had obtained permission for the seven wells in 2016 on the basis of the ERD technology.

- ERD is drilling a well horizontally to at least twice its vertical depth.

- It is extensively used to intersect hydrocarbon targets far from the surface or areas of the reservoir that otherwise were difficult to access.

- The notice has been issued following a gas leak that occurred at **OIL's baghjan oil field**, located near the **Dibru-Saikhowa National Park.**

- The disaster at **Baghjan** has impacted the surrounding ecological life and displaced close to **11,000** people from their homes.

- Earlier, the NGT had also ordered the formation of a committee to probe allegations of large-scale illegal coal mining by North Eastern Coalfields inside **Dehing Patkai Elephant ReserveinAssam's Tinsukia district.**

Natural Resources in Assam:

- The State is one of the richest biodiversity zones in the world and consists of tropical rainforests, deciduous forests, riverine grasslands, bamboo orchards and numerous wetland ecosystems.

- Assam has wildlife sanctuaries, the most prominent of which are two **UNESCO World Heritage sites-the Kaziranga National Park** and the **Manas Wildlife Sanctuary**. There are three other National Parks in Assam namely **Dibru Saikhowa National Park, Nameri National Park** and the **Orang National Park.**

- **Kaziranga** is a home to Indian one-horned rhinoceros which has also been recognized as the State Animal of Assam.

- Assam has abundant mineral resources- coal, petroleum; limestone and natural gas are the principal mineral resources.

- It is also the largest producer of crude oil in India.

- OIL is the second largest hydrocarbon exploration and production Indian public sector company with its operational headquarters in **Duliajan, Assam** under the administrative control of the Ministry of Petroleum and Natural Gas.

4.37 Reasons Behind Pink Water of Lonar Lake

- According to the **Agharkar Research Institute**, the colour of **Lonar lake water** in **Maharashtra's Buldhana district** turned pink due to a large presence of the salt-loving **'Haloarchaea' microbes**.

- The colour of the lake water recently turned pink, which not only surprised locals, but also nature enthusiasts and scientists.

- The water samples have been tested by the Nagpur-based **National Environmental Engineering Research Institute (NEERI)** and the **Agharkar Research Institute in Pune.**

Key Points

- It has been assumed that the absence of rain, less human interference (owing to lockdown) and high temperature resulted in the evaporation of water which increased its salinity and pH.

- pH is a measure of how acidic/basic water is.

- The increased salinity and pH facilitated the growth of halophilic microbes, mainly Haloarchaea.

- Halophiles are a group of microorganisms that can grow and often thrive in areas of high salt (NaCl) concentration.

- Haloarchaea or halophilic archaea is a bacteria culture which produces pink pigment and is found in water saturated with salt.

- Because of the biomass of Haloarchaea microbes, the surface of the water turned red or pink. As the biomass subsides, the colour will disappear.

- The colour of the lake is now returning to original as the rainy season has kicked in, allowing dilution of the water. The salinity and pH/alkalinity levels have also come down and green algae have started growing in the water body.

- Further, it was noted that Haloarchaea microbes were ingested by Flamingos.

- These microbes acted as carotenoid (pigment) rich food for the birds.

- Flamingos get their red-pink colour from special colouring chemicals called pigments found in the algae and invertebrates they eat.

Indian Bull frog

- Scientific Name:**Hoplobatrachus tigerinus.**

- Common Names:**Bull frog, Golden Frog, Green Frog, Tiger Frog etc.**

- IUCN Red List:**Least Concern.**

- **Indian Wildlife Act 1972**: Schedule IV.

- Schedule IV along with Schedule III provide protection with lesser penalties.

- It is native to the Indian subcontinent **(Afghanistan, Bangladesh, India, Myanmar, Nepal and Pakistan)** and is the largest frog in **India**.

- These are prolific breeders (producing many offspring), have short breeding seasons, and each egg clutch can contain up to **5,750 eggs.**

- Indian bullfrog tadpoles are carnivorous and eat other tadpoles (including their own species).

- The tadpoles grow to be the largest **(around 20 millimetres)** and also grow the fastest.

- Adult bullfrogs pose a threat to small endemic vertebrates because they can eat everything which fits into their mouths like **centipedes, leeches, native frogs, lizards, small snakes and even chicks and ducklings.**

- Bullfrogs eat the native frogs as well and their diets overlap, indicating a possibility of competition.

- It is one of the invasive species on the **islands of Andaman and Nicobar.**

- An invasive species is a species that is accidentally or artificially introduced into a biosphere where it is not normally found.

- In the absence of a natural predator, as it generally happens, the invasive species thrive and causes economic and environmental damage due to the imbalance created by its introduction.

4.38 Segregation of Covid-19 Waste

- Recently, the **National Green Tribunal (NGT)** has observed that the **segregation of Covid-19 biomedical waste** from general garbage is a must to avoid further contamination adversely affecting public health.

Key Points

- The directions came on a suo motu matter pertaining to scientific disposal of Covid-19 waste.

- It observed that segregation of Covid-19 from general waste is a must to avoid additional load on **Common Biomedical Waste Treatment and Disposal Facilities (CBWTFs)** incinerators and also to avoid further contamination.

- In **India, Biomedical Waste Management Rules, 2016** deal with waste generated in infectious diseases like Covid-19.

Data Analysis:

- Around **2,907 hospitals, 20,707 quarantine centres, 1,539 sample collection centres and 264 testing laboratories**, are involved in the generation of Covid-19 waste.

- Generation of Covid-19 related biomedical waste in the country is about **101 Metric Tonnes (MT) per day.**

- This quantity is in addition to the normal biomedical waste generation of about **609 MT per day**.

- About **195 CBWTFs** are providing the services of collection, transportation and disposal of **Covid-19 biomedical waste from hospitals, sample collection centres, testing laboratories, etc.**

Concerns:

- The pandemic has presented a challenge in terms of capacity to scientifically dispose of generated waste and a challenge for civic authorities in charge of its collection and disposal.
- States are not following the CPCB guidelines on Covid-19 related waste.
- In some states, improper segregation of waste has been reported from Covid-19 facilities and quarantine homes.
- The non-segregation of waste results in the incineration of contaminated plastics producing toxic gases and adding to air pollution.
- The rise in residential biomedical waste and its collection without adhering to safety protocols could also trigger a surge in caseload.
- Without proper scientific management of such waste, it can potentially affect patients and can affect the concerned workers and professionals.
- Discarded masks and gloves risk the lives of thousands of sanitation workers who work often without any protection or training to handle such hazardous material.

Suggestions:

- Left-over food, disposable plates, glasses, used masks, tissues, toiletries, etc used by Covid-19 patients should be put in yellow-coloured bags, while used gloves should be put in red bags and sent for sterilisation and recycling at the CBWTFs.
- Where waste is not going to CBWTF incinerators, deep burial systems should be properly maintained as per protocols taking all due precautions to prevent harm to the environment.
- A deep burial system involves burying biomedical waste in 2-meter-deep ditches and covering them with a layer of lime and soil.
- CPCB should take further initiatives like conducting an appropriate programme on Doordarshan, All India Radio and other media platforms to create mass awareness about the correct disposal of Covid-19 biomedical waste.
- The government should set up recycling plants across the Country (as envisaged under the Smart cities project) under the Public-Private Partnership (PPP) Model.
- The Centre should form a national protocol combining the Biomedical Waste Management Rules, 2016 with the guidelines on Extended Producer Responsibility (EPR) for producers of plastic.
- The Centre should incentivise start-ups and Small and Medium Enterprises (SMEs) offering solutions for Covid-19 waste segregation and treatment.
- There should be constant and regular monitoring by the Central and state PCBs, Health Departments in the states/UTs and by the high-level task team at Central level with further coordination by CPCB.

4.39 <u>**UN report reported Nitrogen Dioxide levels fell over 70 percent during lockdown in Delhi**</u>

- The **UN policy** brief stated that Levels of Nitrogen dioxide fell by more than **70%** during the lockdown in **New Delhi.** The environmental gains could be temporary if the cities re-open without policies to prevent air pollution and promote de-carbonization.

Highlights:

- It also stated that Nitrogen dioxide fell **40%** in urban areas in China, **20% in Belgium and Germany**, and **19-40%** in different areas of the US.

- The UN's Policy **on'Covid-19 in an Urban World'** stated that with an estimated **90%** of all reported Covid-19 cases, urban areas have become the epicentre of the pandemic. It also pointed out that several new scientific studies suggest that poor air quality is correlated with higher Covid-19 mortality rates.

Nitrogen dioxide

- **Nitrogen dioxide (N2O)** is one of a group of gases called nitrogen oxides. Nitrogen dioxide is naturally formed in the atmosphere by lightning and some are produced by **plants, soil, and water.**

- Nitrogen dioxide is a major air pollutant as it contributes to the formation of photochemical smog. It has various impacts on human health. Nitrogen dioxide is also formed by **burning fossil fuels like coal, oil, and gas.**

- Other forms of nitrogen dioxide in cities are from motor vehicle exhaust. Also, nitrogen dioxide is formed from petrol and metal refining, electricity generation from coal-fired power stations, other manufacturing industries, and food processing. Unflued gas heaters and cookers are the major sources of **nitrogen dioxide in Australian homes.**

5. SCIENCE & TECHNOLOGY

5.1 Scientists synthesize inorganic-organic hybrid compound that can inhibit breast, lung, liver cancer cells

- Scientists from the **Institute of Nano Science & Technology (INST), Mohali,** have synthesized a novel i**norganic-organic hybrid compound** that can inhibit breast, lung, and liver **cancer cells**. It is expected that this will open up new possibilities for metallodrugs.

- The solid compound is based on phosphomolybdate cluster, an inorganic salt of phosphomolybdic acid. The compound belongs to the Polyoxometalates (POMs) family, which had earlier been identified to have antitumor potential.

5.2 G4 Flu Virus

- Recently, **scientists** have identified a **"newly emerged"** strain of influenza virus that is infecting Chinese pigs and that has the potential of triggering a pandemic.

- Named G4, scientists believe that it has descended from the H1N1 strain that was responsible for the **2009 swine flu pandemic.**

- A Pandemic happens if a new strain emerges that can easily spread from person to person.

Key Points

G4 Strain:

- It was identified through surveillance of influenza viruses in pigs through a study carried out from 2011 to 2018 in ten provinces of China.

- It can grow and multiply in the cells that line the human airways.

- It has the capability of binding to human-type receptors (like, the SARS-CoV-2 virus).

- Scientists found evidence of recent infection in people who worked in abattoirs and the swine industry in China.

- However, it is not clear whether the new strain can transmit from one human to another.

- Current flu vaccines do not appear to protect against it, although they could be adapted to do so if needed.

Flu Pandemic:

- Pigs are intermediate hosts for the generation of pandemic influenza virus.

- Intermediate host is an organism that harbours a parasitic which is being provided with nourishment and shelter by the organism.

- The systemic surveillance of influenza viruses in pigs is a key measure for pre-warning the emergence of the next pandemic influenza.

- There is an urgent need to control the prevailing G4 virus in pigs.

2009 Swine Flu Pandemic:

- The **2009 pandemic** was caused by a strain of the swine flu called the **H1N1 virus**, which was transmitted from human to human.

- Swine flu is a respiratory disease of pigs caused by type A influenza viruses i.e. H1N1. It is called swine flu because it was known in the past to occur in people who had been in the vicinity of pigs.

- While humans typically do not get infected by such a virus that circulates among pigs, when they do, it is called **"variant influenza virus".**

- The **World Health Organisation (WHO)** declared the outbreak of type A H1N1 influenza virus a pandemic in 2009 when there were around **30,000** cases globally.

- **Transmission:** The virus is transmitted by short-distance airborne transmission, particularly in crowded enclosed spaces. Hand contamination and direct contact are other possible sources of transmission.

- Symptoms of swine flu include fever, cough, sore throat, body aches, headaches, chills and fatigue.

- The treatment includes antiviral therapy with medicines like Oseltamivir (Tamiflu), peramivir (Rapivab).

5.3 CogX 2020: Festival of AI & Emerging Technology

- Recently **MyGov Corona Helpdesk Chatbot** has bagged two awards under categories (1) **"Best Innovation for Covid-19 – Society"** and (2) **"People's Choice Covid-19 Overall Winner"** at the recently held **CogX 2020.**

Key Points

- CogX is a prestigious **Global Leadership Summit and Festival of Artificial Intelligence & Emerging Technology** held annually in London with over **15,000** participants in attendance from the highest levels of business, government, industry, and research.

- The CogX Awards are given out to the best-of-the-best in AI and emerging technologies across the world.

- MyGov Corona Helpdesk demonstrated the true **Public, Private Partnership (PPP),** wherein, citizen centric services were provided by MyGov, while the state-of-the-art technological solution including infrastructure were designed, developed, and deployed by a private partner- **JioHaptik Technologies Limited.**

- This Chatbox has been developed by **MyGov, JioHaptik Technologies Limited and WhatsApp.**

- MyGov (launched in 2014) is the world's largest citizen engagement platform, which facilitates two-way communication between the Government and Citizen and facilitates participatory governance in India.

5.4 Accelerate Vigyan Scheme: SERB

- Recently, the **Science and Engineering Research Board (SERB),** has launched a scheme called **Accelerate Vigyan (AV)** to strengthen scientific research mechanisms in the country.

Key Points

- **Objective:** To give more thrust on encouraging high-end scientific research and preparing scientific manpower, which can lead to careers in research and knowledge-based economy.
- **Vision:** To expand the research base, with three broad goals i.e. consolidation/aggregation of all scientific programs, initiating high-end orientation workshops, and creating opportunities for research internships.

Components:

- **ABHYAAS Programme:** Under it, AV is inviting applications for the winter season (December 2020-January 2021).
- It is an attempt to boost research and development in the country by enabling and grooming potential PG/PhD students by means of developing their research skills in selected areas across different disciplines or fields.
- It has two components: **High-End Workshops** i.e. **KARYASHALA** and **Research Internships i.e. VRITIKA.**
- This is especially important for those researchers who have limited opportunities, access to facilities and infrastructure.
- **SAMMOHAN:** It has been sub-divided into SAYONJIKA and SANGOSHTI.
- **SAYONJIKA** is an open-ended program to catalogue the capacity building activities in science and technology supported by all government funding agencies in the country.
- **SANGOSHTI** is a pre-existing program of SERB for the organisation of workshops.
- **Execution:** An **Inter-Ministerial Overseeing Committee (IMOC)** involving all the scientific ministries/departments has been constituted for the purpose of supporting SERB in implementing the AV scheme.

Significance:

- **Capacity Building:** The database of skilled manpower developed across different disciplines through all the sub-components of the AV would help in capacity building.
- **Social Responsibility:** The scheme also seeks to garner the social responsibility of the scientific community in the country.

5.5 MOM captured image of Phobos, the biggest moon of Mars

- The **Mars Colour Camera (MCC)** on board **ISRO's Mars Orbiter Mission (MOM)** has captured the image of Phobos, the closest and biggest moon of Mars. The image was taken on **1st July** when MOM was about **7,200 km** from **Mars** and **4,200 km** from Phobos.

Highlights:

- The image is a composite image generated from **6 MCC** frames with a Spatial resolution of the image is **210 m.**
- The colour if the image has been corrected.
- In the image, 4 craters namely **Stickney, Shklovsky, Roche & Grildrig are seen**. Stickney is the largest crater on Phobos.

Mars Orbiter Mission (MOM):

- **Mars Orbiter Mission** is also known as **Mangalyaan**. Initially, it was meant to last for six months. But then it had enough fuel to last for many years.
- MOM was launched on **24 September 2014**. It cost **Rs.450 crore.**
- The MOM spacecraft was successfully launched in the orbit of the planet Mars.
- MOM mission aims to study the Martian surface and mineral composition and scan its atmosphere for methane which is an indicator of life on Mars.
- Mars Orbiter has 5 scientific instruments namely:
  - ➢ Lyman Alpha Photometer (LAP)
  - ➢ Methane Sensor for Mars (MSM)
  - ➢ Mars Exospheric Neutral Composition Analyser (MENCA)
  - ➢ Mars Colour Camera (MCC)
  - ➢ Thermal Infrared Imaging Spectrometer (TIS)

5.6 More Metallic Moon: NASA

- Recently, the **National Aeronautics and Space Administration (NASA)** has found evidence of greater quantities of metals such as **Iron and Titanium on the Moon's subsurface.**
- The metallic distribution was observed by the **Miniature Radio Frequency (Mini-RF)** instrument aboard the **Lunar Reconnaissance Orbiter (LRO) spacecraft.**

Key Points

- The **LRO's Mini-RF** instrument was measuring dielectric constant within **lunar soil** in crater floors in the Moon's northern hemisphere.
- **Dielectric constant**, **an electrical property**, is the ratio of the electric permeability of a material to the electric permeability of a vacuum.
- Dielectric properties are directly linked to the concentration of metal minerals.

- The level of this property increased while surveying larger craters and kept rising in crater sizes up to **5 km** in diameter. Beyond that size, the value of the dielectric constant leveled off.
- It raised the possibility that the dielectric constant increased in larger craters because the meteors that created them dug up dust containing iron and titanium oxides from beneath the Moon's surface.
- The Mini-RF findings were backed by **metal oxide maps from the LRO Wide-Angle Camera**, **Japan's Kaguya mission** and **NASA's Lunar Prospector spacecraft**, which showed that larger craters with their increased dielectric material were also richer in metals.
- The metal oxide maps suggested that more quantities of iron and titanium oxides were dug up from **0.5 to 2 km** below the Moon's surface as compared from the first **0.2 to 0.5 km.**

Significance:

- If the findings are proven to be true, it would imply that there are large quantities of iron and titanium oxides beyond a few meters of the **Moon's upper surface**.
- The finding could aid in drawing a clearer connection between **Earth and the Moon.**
- NASA has now undertaken further research to find whether the same relation between metal deposits and crater size holds true on the southern hemisphere of the Moon.

Connection with Moon Formation

- A Mars-sized protoplanet collided with the newly formed Earth around **4.5 billion** years ago, breaking off its piece that went on to become a satellite.
- The hypothesis is backed by substantial evidence, such as the close resemblance between the **Moon's bulk chemical composition with that of Earth.**
- However, scientists have been trying to explain how Earth's crust has fewer amounts of iron oxide than the Moon. Now, the new discovery of even greater quantities of metal on the Moon makes the process more difficult.
- A possible reason could be that the Moon was created from a material much deeper beneath Earth's surface than was believed before, or that the newly found metal presence could be the result of molten lunar surface cooling down gradually.

5.7 Use of Winter Diesel in Ladakh

- Recently, the **Indian Oil Corporation (IOC)** has sought approval from the **Directorate General of Quality Assurance (DGQA)** for the use of winter diesel by armed forces for operations in high altitude areas such as **Ladakh**.
- The winter diesel was introduced as a technological solution by the **IOC** in **2019** in high-altitude sectors like **Ladakh, Kargil, Kaza and Keylong,** which face the problem of freezing of diesel in their vehicles in extreme weather conditions.

Key Points

Winter Diesel:

- It is a specialised fuel specifically for high altitude regions and low-temperature regions such as Ladakh, where ordinary diesel can become unusable.

- It also meets the **Bureau of Indian Standards (BIS) specification of BS-VI grade.**

Characteristics:

- **Low Viscosity:** It contains additives to maintain lower viscosity by enabling the fuel to remain fluid in such conditions.

- Regular diesel fuel contains **paraffin wax** which is added for improving **viscosity and lubrication**. At low temperatures, the paraffin wax thickens or **"gels"** and hinders the flow of the fuel in the car engine.

- The viscosity of a fluid is a measure of its resistance (due to internal friction) to deformation thereby maintaining the state of being thick and semi-fluid in consistency.

- Paraffin wax is a soft colorless solid derived from petroleum, coal or shale oil that consists of a mixture of hydrocarbon molecules.

- **Low Pour Point:** It has a low pour point (as low as minus 30-degree celsius). It is the temperature below which the liquid loses its flow characteristics.

- The flow characteristics of regular diesel change at low temperatures and using it may be detrimental to vehicles.

- Earlier, the **IOCL** provided the **Diesel High sulphur Pour Point (DHPP -W)** to armed forces, which also has a pour point of -**30°C.**

- **Higher Cetane Rating:** It has a higher cetane rating — which is an indicator of the combustion speed of diesel and compression needed for ignition.

- **Lower Sulphur Content:** It would lead to lower chemical deposits in engines and better performance.

Significance:

- **Border Tensions with China in Ladakh:** It is expected that demand for the winter fuel may rise due to the border tensions in the **Galwan valley** in **Ladakh** for the patrolling purposes.

- **Boost to Local Economy:** Supply of the special fuel to Ladakh would reduce the hardships faced by the local people for transportation and mobility during winter months, therefore facilitate the local economy and tourism.

- **Curb in Air Pollution:** Before the launch of winter diesel, consumers in such areas were using kerosene to dilute diesel to make it usable, which leads to more air pollution.

- Now use of winter diesel would replace use of Kerosene therefore helping in the reduction of air pollution.

5.8 Lithium Production in Stars

- Recently, **scientists** from the **Indian Institute of Astrophysics (IIA)** have provided evidence for the first time that **Lithium (Li) production** is common among low mass Sun-like stars during their **Helium (He)** core burning phase.
- IIA is an autonomous institute of the **Department of Science and Technology (DST), Government of India.**

Key Points

Findings of the Study:

- Scientists performed a large-scale systematic investigation of the **'He-flash'** (on-set of He-ignition at the star's core via violent eruption), at the end of the star's core hydrogen-burning phase.
- Hydrogen burning is the fusion of hydrogen nuclei into a helium nucleus.
- This He-flash has been identified as the source of Li production suggesting that all low-mass stars undergo Li production.
- Our Sun will reach this phase in about **6-7 billion** years and will manufacture Li.
- The study challenges the long-held idea that stars only destroy lithium and indicates that there is some physical process missing in stellar theory.
- Earlier, it was believed that a vast majority of stars with a mass similar to that of the Sun destroy Li gradually over the course of their lives, via low-temperature nuclear burning.
- The study also suggests new limits (A(Li) > -0.9~dex) for classifying stars as Li-rich, which is 250 times below the threshold (A(Li) > 1.5~dex) used till now.

Origin of Lithium:

- The origin of much of the Li can be traced to the Big-Bang that happened about **13.7 billion** years ago.
- Over the course of time, Li content in the physical universe has increased by about a factor of four, which is meagre compared to the rest of the elements which grew about a million times.
- Stars are primary contributors to the significant enhancement of heavier elements through mass ejections and stellar explosions. Li, however, was thought to be an exception till now.

Usage of Lithium:

- Lithium is a light inflammable metal which is mainly used in **lithium-ion (Li-ion)** batteries and has brought a transformation in modern communication devices and transportation.
- It is used in the manufacturing of aircrafts.
- It is also used in mental health. Lithium carbonate is a common treatment of bipolar disorder, helping to stabilize wild mood swings caused by the illness.

5.9 ISRO to Launch Brazil's Amazonia-1 Earth Observation Satellite on PSLV

- **Indian Space Research Organisation (ISRO)** is set to launch the **Amazonia – 1** on board the **Polar Satellite Launch Vehicle (PSLV)** as a primary payload by **August 2020**. Amazonia -1 is Brazil's first satellite for Earth observation – designed, assembled and tested in Brazil.

Purpose of Amazonia -1:

- Amazonia – 1 will help in observing and monitoring the deforestation in the region of Amazon through the satellite images.

- The importance of this satellite has increased due to the recent forest fire in amazon.

- The images from the Brazilian satellite will also help in the agriculture and vegetation sector.

Space cooperation between India and Brazil:

- Under the government to government level agreement between India and Brazil, Brazil started receiving data from the **Resourcesat-1 satellite of India** from **October 2009 to September 2013** and from **Resourcesat-2** since **October 2014.**

- Tracking support for **Indian satellites and space programmes** including **Chandrayaan-I, Megha Tropiques, MOM,** and **ASTROSAT** were provided from the Brazilian ground stations in Alcantara and Cuiaba on commercial basis.

5.10 IAF Gets Apache Helicopters

- Recently, **Boeing** has handed over the last of the five **AH-64E Apache attack helicopters to the Indian Air Force (IAF).**

- The handover was slightly delayed due to the Covid-19 induced lockdown.

- Earlier, Boeing handed over the last five of the **15 CH-47F(I)** Chinook heavy-lift helicopters to the IAF as well.

Key Points

- India contracted **22 Apache helicopters** and **15 Chinook helicopters** from Boeing through the **Foreign Military Sales programmeof the USA government** in **September 2015** under a **USD 3 billion deal.**

- The addition of both these helicopters is a significant step towards modernization of IAF's helicopter fleet.

AH-64E Apache Attack Helicopter:

- These are all-weather capable, easily maintainable helicopters and have high agility and survivability against battle damage.

Capabilities:

- Carry out precision attacks at standoff ranges and operate in hostile airspace with threats from the ground.

- Transmit and receive battlefield pictures through data uplinking and networking.
- Shoot fire and forget anti-tank guided missiles, air to air missiles, rockets while providing the versatility to helicopter in network-centric aerial warfare.
- Carries fire control radar, which has a **360°** coverage and nose-mounted sensor suite for target acquisition and night vision systems.
- Boeing's joint venture in **Hyderabad**, **Tata Boeing Aerospace Limited,** has been producing aero-structures for the AH-64 Apache helicopter for both the USA Army and international customers.

15 CH-47F(I) Chinook Heavy-lift Helicopters:

- It is capable of airlifting diverse military and non-military loads into remote locations.
- It has a fully integrated digital cockpit management system, advanced cargo handling capabilities and electronic warfare suite that complement the aircraft's performance.
- The helicopter has been customized to suit IAF's future requirements and capability roadmap.
- These are deployed in the **Northern and Eastern regions of India.**
- Boeing's suppliers in India are manufacturing critical systems and components for the Chinooks, including the crown and tail cone assembly by the **Tata Advanced Systems and the ramp and aft pylon by Dynamatic Technologies.**

5.11 Itolizumab: Emergency Covid-19 Drug

- Recently, the **Drugs Controller General of India (DCGI)** has cleared **Itolizumab** for restricted emergency use in Covid-19 cases.
- Itolizumab is a drug used to treat severe **chronic plaque psoriasis.**
- Plaque psoriasis is a chronic autoimmune condition in which skin cells build up and form scales and itchy, dry patches.

Key Points

- Itolizumab is for emergency use only in the treatment of **Cytokine Storm Syndrome (CSS)** in moderate to Severe **Acute Respiratory Distress Syndrome (ARDS)** patients due to Covid-19.
- CSS is an uncontrolled attempt by the immune system to neutralise the virus that often ends up damaging the lungs and other organs and even death.
- **ARDS** is a disease in which the lung loses its capacity to expand further.
- It will be manufactured and formulated as an **intravenous (IV)** injection at the bio-manufacturing facility in **Bengaluru**.
- **Itolizumab is the first novel biologic therapy** to be approved anywhere in the world for treating patients with moderate to severe Covid-19 complications.
- **Itolizumab is a biologic/biologic drug** given by **injection (shot) or IV infusion.**
- A biologic is a protein-based drug derived from living cells cultured in a laboratory.

- Biologics are different from traditional systemic drugs that impact the entire immune system.
- Biologics only target specific parts of the immune system and biologics used to treat psoriatic disease block the action of a specific type of immune cell called a T-cell.

Reasons for its Approval

- DCGI's approval for the repurposed drug comes after the successful conclusion of a randomised, controlled clinical trial at multiple hospitals.
- The trial was designed employing a method called Simon's Two-Stage Design, an approach in executing phase-2 clinical trials where the efficacy of a drug is tested.
- Other criteria such as improvement in oxygen levels and reduced inflammation were also convincing to several doctors who used the drug on their patients.
- The evaluation also rests on Itolizumab being added to the **'best standard of care'** which slightly varied across hospitals.
- In general, this consisted of **Hydroxychloroquine (HCQ), Ritonavir (Antivirals), Oxygen Therapy, Antibiotics, Heparin (to avoid clotting) and some got methylprednisolone (a corticosteroid).**
- Its usage was justified because of its large trials and safety assessments are already done for psoriasis. Plus, it is hard to recruit a larger number of patients in critical care conditions so numbers had to be kept low.
- There are no hard rules on a minimum number of recruits.
- For an orphan drug (used to treat orphan or rare diseases), small numbers of recruits are approved.
- The available evidence for **remdesivir** suggests that it may decrease the time for clinical improvement when used in moderate to severe cases and has no benefits in terms of reduced mortality.
- Remdesivir has to be used with extreme caution due to its potential for serious adverse effects including liver and kidney injury.
- Another drug Tocilizumab has not shown any benefits in mortality reduction.

Criticism:

- Itolizumab appears to have been tested on too few patients to reliably conclude on its benefits and with such a small sample size it would be unwise to claim it as the final and fully successful drug.
- 30 patients were recruited across four hospitals and 20 of them were given Itolizumab along with the 'standard of care treatment' and 10 were given only standard of care.
- Nobody died from the set of 20 patients and 3 patients died from the set of 10 patients.

5.12 Kuaizhou-11 Rocket

- The **Chinese rocket** named **Kuaizhou-11** failed due to malfunction during the flight, losing both the satellites it was carrying.

Key Points

- **Description:** Kuaizhou, meaning **"fast ship"** in Chinese is a low-cost solid-fueled carrier rocket.
- It was operated by the **commercial launch firm Expace**, and was originally scheduled for **2018** after being developed three years earlier.
- Also known as KZ-11, it had a lift-off mass of **70.8 tonnes**, and was designed to launch **low-Earth and Sun-synchronous orbit satellites**.
- **Significance:** Although the launch failed, it signifies a rapidly growing commercial space industry in **China**.
- Commercial launches are an emerging industry in China. Companies such as **Expace, iSpace, and Landspace**, created after the Chinese government opened its space sector to private investment in **2014**, have cut down traditional launch operations and are developing rapid response capabilities, the report stated.
- This has provided greater advantages for both **government and commercial customers.**

Other Important Missions of China:

- **Tianwen-1:** China's Mars Mission to be launched by July, 2020. China's previous **'Yinghuo-1' Mars mission**, which was supported by **Russia** failed in **2012**. Tianwen-1 will lift off on a **Long March 5 rocket.**
- **Long March 5 Rocket:** Considered as China's successful step to operate a permanent space station and send astronauts to the Moon.
- **Tiangong:** China's own space station to be built by **2022**. Tiangong means a **'Heavenly Palace'.**

5.13 Space Commercialization and India

- The development of low-cost carrier rockets must be seen in the backdrop of the fact that China gears up to compete with India to attract the lucrative global space launch market.
- According to an article published in **2017** in the **Global Times, 'China's space industry** is lagging behind that of **India in the commercial space industry.'**
- The Chinese rockets will have to create a niche for themselves in the satellite market where the **Indian Space Research Organisation (ISRO)** has already gained a foothold. ISRO's tried and trusted **Polar Satellite Launch Vehicle (PSLV)** has till now launched **297** foreign satellites and has various variants, which are meant for carrying different-size payloads and to different orbits.
- Small satellite revolution is underway, globally, **17,000** small satellites are expected to be launched between **2020** and **2030**. A strong private sector in space will help India to tap into this lucrative commercial space launch market.
- However, apart from economic and efficient launch vehicles, India must also explore other domains, say, space tourism through private sector involvement.

- Space tourism is one among several opportunities that Indian businesses may be keen to explore. A policy framework to enable private participation in this sector, of course, would have to be formulated by the government.

Increasing Space Competitiveness:

- **USA:** Recently, **SpaceX** became the first private company to launch people (human spaceflight) into **orbit**, a feat achieved by the **US, Russia & China**. The spacecraft Crew Dragon was used to successfully carry astronauts of **National Aeronautics and Space Administration (NASA)** at the **International Space Station (ISS).**
- **Singapore** is offering itself as a hub for space entrepreneurship based on its legal environment, availability of skilled manpower and equatorial location.
- **New Zealand** is positioning itself as a location for private rocket launches.

Steps Taken by India:

- Approval to the **Indian National Space Promotion and Authorization Centre (IN-SPACe)** to provide a level playing field for private companies to use Indian space infrastructure.
- **New Space India Limited (NSIL),** the newly created second commercial arm of the **Indian Space Research Organisation**.
- ISRO has been a genuine global pioneer of aerospatial cost compression on several fronts. Cost-effectiveness has given the agency a distinct edge in the commercial arena of satellite launch services.
- With such a valuable base of expertise within the country, it is only natural to expect the emergence of a private space industry that could prove globally competitive.

5.14 Hope: UAE Mars Mission

- The **United Arab Emirates (UAE) Mars Mission or 'Hope'** is scheduled for launch on **16th July, 2020.**
- It is one of three missions launching to Mars this month. The **USA and China,** both have surface rovers in the late stages of preparation.

Key Points

Hope Mission:

- It is the first interplanetary mission for the Arab World.
- The '**Hope Orbiter'** will be lifted on an H-IIA rocket from **Mitsubishi Heavy Industries**, a machinery maker in **Japan**. It will be launched from **Tanegashima Island in Japan.**
- The UAE does not have its own rocket industry.
- Once launched, it is expected to arrive in orbit around **Mars in February 2021** (the year of 50th anniversary of UAE's founding).

- It costs about **USD 200 million** and will carry three instruments: an infrared spectrometer, an ultraviolet spectrometer and a camera.

Expected Benefits:

- It will give planetary scientists their first global view of Martian weather at all times of day.
- Over its two-year mission, it will investigate how dust storms and other weather phenomena near the Martian surface speed or slow the loss of the planet's atmosphere into space.
- Significance: The Country's primary aim is to inspire school children and spur its science and technology industries, which, in turn, will enable the Emirates to tackle critical issues like food, water, energy and a post-petroleum economy.

Previous UAE Space Missions:

- Has built and launched three earth-observing satellites in collaboration with a South Korean manufacturer.
- In **2019, the UAE** bought a seat on a **Russian Soyuz rocket** and sent its first astronaut for an eight-day stay at the **International Space Station.**

Other Two Missions on Mars:

- **NASA's Mars rover, Perseverance**, with instruments to search for chemical signs of past life, has been launched on **30th July, 2020.**
- China is also launching an ambitious mission to **Mars, Tianwen-1.**

Reasons Behind Timing of Mars Missions:

- The timing is dictated by the opening of a one-month window in which Mars and Earth are in ideal alignment on the same side of the sun, which minimizes travel time and fuel use. Such a window opens only once every **26 months.**

Existing Missions on Mars:

- Only the USA has successfully put a spacecraft on Mars. Two NASA landers are operating on the Mars i.e. **InSight and Curiosity.**
- Six spacecraft that are exploring Mars from orbit include three from the USA, two European and one from India (Mars Orbiter Mission).

Objective Behind Mars Exploration:

- Despite being starkly different in many ways, the Red Planet has several Earth-like features– such as **clouds, polar ice caps, volcanoes, and seasonal weather patterns.**
- For ages, scientists have wondered whether Mars can support life. In the past few years, Mars missions have been able to discover the possible presence of liquid water on the planet, either in the subsurface today or at some point in its past.

5.15 Low-cost Supercapacitor Device

- Recently, **scientists** at the **International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI)** have developed a simple, low-cost, environment-friendly, and sustainable **supercapacitor device.**

- ARCI is an autonomous organization of the **Department of Science and Technology, Government of India.**

Key Points

Supercapacitor Device:

- The supercapacitor is developed from industrial waste **cotton based electrode& natural seawater electrolyte.**

- Industrial waste cotton was converted into highly porous carbon fibers by activation process and then utilised to make high-performance supercapacitor electrodes.

- Natural seawater was explored as an environment-friendly, cost-effective and alternative aqueous electrolyte.

Benefit:

- This supercapacitor showed great potential for practical implementation.

- It exhibited maximum capacitance, good durability and high efficiency.

- Capacitance is the ability of a system to store an electric charge.

- Efficiency denotes the charge transfer in a system facilitating an electrochemical reaction.

- When integrated with a solar cell, the supercapacitor will become a low cost, eco-friendly, efficient and self-powering device.

- It has a long life cycle and can be used as maintenance-free power supply.

- It can also overcome the drawbacks of the intermittent nature of the solar irradiation.

5.16 Spike-LR Anti-Tank Guided Missiles

- The **India Army** is set to place a repeat order for **Spike-LR (Long Range) Anti-Tank Guided Missiles (ATGM)** from **Israel** as part of emergency procurement.

- The decision comes in the backdrop of continuing tensions on the **Line of Actual Control (LAC) with China**.

Key Points

- Last year, the Army procured **12 launchers** and around **250 missiles from Israel** under the new emergency financial powers sanctioned by the **Defence Ministry** after the **Balakot airstrike.**

Emergency Financial Powers:

- Under these, armed forces have been given a free hand to procure equipment worth up to **Rs. 300 crore** on a priority basis with deliveries stipulated to be completed in three months but extendable up to six months.

- Entirely new systems not in use were also allowed to be procured under the new powers.

Spike-LR:

- These are the **4th generation Anti-Tank Missiles** developed and manufactured by the **Rafael Advanced Defence Systems, Israel.**

- It is a portable anti-armour weapon system with a range of up to 4 km, which can be operated in fire-and-forget mode and in the fire, observe and update mode using the fibre-optic data link.

- These are used by infantry soldiers, special rapid reaction forces, ground forces and helicopter aircrew.

- It can work in **non-line-of-sight (NLOS)** mode allowing the gunner to operate from a covered position.

- The army recently decided to place a repeat order for **72,400 Sig 716 assault rifles** from the USA as well.

- They will replace the existing **Indian Small Arms System (Insas)** rifles manufactured locally by the **Ordnance Factories Board**.

- They will be used by the troops in the counter-terrorism operations and frontline duties on the Line of Control (LoC).

- India acquired the rifles under the **fast-track procurement (FTP) programme.**

- The remaining forces would be provided with the **AK-203 rifles**, which are to be produced jointly by India and Russia at Amethi ordnance factory.

- The Army has a much larger requirement for **ATGMs** which will be met through indigenous **Man-Portable ATGM** under development by the **Defence Research and Development Organisation (DRDO).**

5.17 Covid-19 Specific Memory T Cells

Recent studies have shown that people unexposed to and not infected with **Covid-19 (caused by SARS-CoV-2 or Novel Coronavirus)** may still exhibit **T cell** responses specific to other coronaviruses.

Key Points

- A huge number of adults are exposed to four different coronaviruses that cause common cold and studies have shown that **20-50%** of healthy people display **SARS-CoV-2-specific memory T cells.**

- The healthy people studied were those tested prior to the pandemic or have not been infected with novel coronavirus.

- Memory T cells protect against previously encountered pathogens.

- It is thought that SARS-CoV-2-specific T cell responses seen in healthy people might arise from memory T cells derived from exposure to 'common cold' coronaviruses.
- However, it is not known that the presence of pre-existing immunity from memory T cells offers clinical relevance, when exposed to SARS-CoV-2.
- Measuring pre-existing immunity and correlating it with infection and severity of disease is the only way to find out its role in protection against SARS-CoV-2.
- However, the relationship between the infections by and immunity from common cold coronavirus and age is not well established. That is why it is unclear why children do not show severe symptoms, while older people do.
- These considerations underline how multiple variables may be involved in potential pre-existing partial immunity to Covid-19.

Pros:

- It is believed that people with a high level of pre-existing memory T cells could mount a faster and stronger immune response upon exposure to the virus and thereby limit disease severity.
- T cells could potentially facilitate an increased and more rapid neutralizing antibody response against the virus.

Cons:

- The pre-existing immunity can reduce the immune responses that the vaccine causes through a mechanism called the **'original antigenic sin'.**
- Original antigenic sin, also known as the Hoskins effect, refers to the propensity of the body's immune system to preferentially utilize immunological memory based on a previous infection when a second slightly different version of that foreign entity is encountered.
- It can also lead to antibody-mediated disease enhancement, where antibodies present at sub-neutralising concentrations can actually augment virus infection and cause more severe disease.

5.18 Pneumococcal Conjugate Vaccine

- The **Serum Institute of India Pvt. Ltd, Pune**, has been granted permission to manufacture the first indigenously developed **Pneumonia Conjugate Vaccine (PCV) i.e. Pneumococcal Polysaccharide.**
- The permission has been granted by the **Drug Controller General of India (DCGI),** a drug regulatory authority.
- India is planning for the nationwide rollout of PCV under **Universal Immunisation Programme (UIP).**

Key Points

Description: PCV prevents pneumococcal disease

- Pneumococcal disease refers to any illness caused by **pneumococcal bacteria.**

- The vaccine is a mix of several bacteria of the pneumococci family, which are known to cause pneumonia — hence **'conjugate'** is included in the name of the vaccine.
- Conjugate vaccines are made using a combination of two different components.
- It is used for active immunisation against invasive disease and pneumonia caused by **Streptococcus pneumoniae in infants**.
- In invasive diseases bacteria invades parts of the body like **blood fluid, brain and spinal cords.**
- It is administered intramuscularly, i.e injected deep into the muscles.
- Earlier the demand for such vaccines were provided by licensed importers since the manufacturers were all based outside India.
- **Clinical Trials:** Institute has conducted the **Phase I, Phase II and Phase III** clinical trials of Conjugate Vaccine in India.
- It has also conducted clinical trials in **Gambia**.

5.19 Clinical Trial of Covid-19 Vaccine: ZyCoV-D

- Recently, **India** has started **phase I/II clinical trials of Covid-19 vaccine - ZyCoV-D,** designed and developed by **Zydus (a pharmaceutical company)** with support from the **Department of Biotechnology (DBT).**
- The adaptive phase I/II clinical trials will assess the safety, tolerability and immunogenicity of the vaccine.
- The other indigenously developed vaccine - **Covaxin** - produced by Hyderabad based Bharat Biotech is also underway to start clinical trials.

Key Points

- **Description:**ZyCoV-D, a plasmid DNA vaccine, comes under the Vaccine Discovery Programme supported by the Department of Biotechnology under the National Biopharma Mission.
- Plasmids are circular **deoxyribonucleic acid (DNA)** vectors that can be used as vaccines to prevent various types of diseases.
- **Pre-Clinical Phase:** It was found to initiate a strong immune response in multiple animal species like mice, rats, guinea pigs and rabbits.
- The antibodies produced by the vaccine were able to neutralize the wild type virus indicating the protective potential of the vaccine candidate.
- No safety concerns were observed in repeat dose by both intramuscular (directly into muscles) and intradermal (superficial injection into skin) routes of administration.
- **DNA Vaccine Platform:** The development of ZyCov-D has established the DNA vaccine platform in the country which is simple to deploy, temperature stable, and consistently manufacturable- thus lowering costs and enhancing the effectiveness of a vaccine.

- It provides ease of manufacturing the vaccine with minimal biosafety requirements.
- It has shown much improved vaccine stability and lower cold chain requirements making it easy for transportation to remote regions of the country.
- Furthermore, the platform can be rapidly used to modify the vaccine in a couple of weeks in case the virus mutates.

5.20 New way of Predicting Earthquakes

According to a recently published study, researchers have developed a new way to improve the prediction of earthquakes.

Key Points

Earthquakes:

- Earthquakes usually occur along faults (fractures between rocks which can range from a few millimetres to thousands of kilometres).
- When two blocks of earth slip past one another, seismic waves are generated in a short span of time and earthquakes occur.
- The waves travel to the surface causing destruction and are difficult to predict, making it challenging to save lives.

Earlier Attempts:

- Scientists have attempted to recreate the faults and their sliding in laboratories to try and understand the conditions in them during earthquakes.
- However, the actual conditions are so complex that it is difficult to recreate them with full accuracy which makes the prediction of earthquakes difficult.

New Method:

- Researchers have now used a different approach for earthquake prediction by trying to predict the frictional strength of phyllosilicates.
- Frictional Strength: It is the force required to cause movement along a fault.
- Phyllosilicates: Minerals in the form of thin plates found along the weakest part of the faults where earthquakes occur.
- The researchers analysed artificial fault zones on a microscopic scale to identify processes that occurred during the experiment.
- A set of equations were then formulated to predict how the frictional strength of phyllosilicate changes, along with a change in conditions such as humidity or the rate of fault movement.
- This made it easier for modellers to simulate fault movement in natural conditions, including earthquakes.

- The new model predicts that movement along phyllosilicate-rich fault zones becomes more difficult as it becomes faster and this has been consistent with experiments.

- This behaviour of movement becoming more difficult prevents earthquakes and suggests minerals other than phyllosilicates play an important role in causing earthquakes.

- However, more work and research are needed to clearly explain it and to understand the relation between the force that holds a fault together and the force needed to move the fault.

5.21 ASPIRE Portal for Automotive Industry: ICAT

- The International Centre of Automotive Technology (ICAT) is developing a technology platform for the automotive industry called ASPIRE - Automotive Solutions Portal for Industry, Research and Education.

- The Portal is expected to help in developing a strong and self-reliant automotive industry in India which is in tune with the vision of Make in India and Atmanirbhar vision of the Government of India.

Key Points

- The Portal is being developed in line with the initiative by the Department of Heavy Industry (DHI) under the Ministry of Heavy Industries & Public Enterprises.

- DHI has taken an initiative to promote innovation and to develop the related ecosystem.

- Objective: To enhance the technological capability of Indian automotive sector through exchange of knowledge & expertise, in order to make them self reliant and to facilitate the growth of the automobile sector and overall socio-economic progress of the country.

- Functioning: It will facilitate the Indian auto industry, R&D institutions and academia (colleges & universities) to come together for R&D, technology development, shop floor/quality/warranty issue's resolution, expert opinions on issues involving technology advancements.

- The portal will also host grand challenges in line with the need of the industry as will be identified from time to time, for development of key automotive technologies.

5.22 China successfully launched a rover to Mars

China successfully launched a rover to Mars on 23 July 2020, which is another milestone for its space programme.

Highlights:

- China's Mars probe was launched from the southern island of Hainan, China.

- The Mars mission was named Tianwen-1meaning "Questions to Heaven" in a nod to a classical Chinese poem that has verses about the cosmos.

- Under the mission, the probe aims to go enter into Martian orbit. It will land on the planet Mars and release a small rover to conduct research on its surface.

- It is expected to reach the planet in February 2021.

- The spacecraft will travel at least **55 million kilometres** to reach its destination.
- In its earlier attempt in **2011**, China's partnership with Russia failed because the Russian launcher was unable to get the craft into a transfer orbit to slingshot towards Mars.

BIS-Care

- Recently, the **Union Minister for Consumer Affairs, Food and Public Distribution** has launched the **Bureau of Indian Standard (BIS) Mobile App 'BIS-Care'** and three portals namely the Standardization, Conformity Assessment and Training Portals of e-BIS for consumers.
- BIS is the **National Standard Body of India** for the harmonious development of the activities of standardization, marking and quality certification of goods.

Key Points

BIS-Care App:

- The app can be operated on any Android phone and is operational in Hindi and English language.
- Consumers can check the authenticity of the ISI-marked and hallmarked products and lodge complaints using this app.
- It is important to ensure that consumers are aware of the standards and quality products and help in eliminating the supply of sub-standard products.

e-BIS:

- e-BIS is an integrated portal covering all functions of BIS, enlisting the services of outside agencies for factory and market surveillance and development of mobile app-based and Artificial Intelligence (AI) enabled surveillance methods.
- Certification and surveillance to enforce the implementation of standards is an important aspect of BIS functioning which is also strengthening its capacity of enforcement by the implementation of e-BIS.

Other Steps Taken:

- BIS has been playing an important role in the formulation of **Quality Control Orders (QCO)** to make the standards mandatory.
- It has actively collaborated with various Ministries and Departments to help them issue QCOs for various products.
- After standards become mandatory, manufacturers, both domestic and foreign, have to comply with them.
- BIS is developing a portal on Consumer Engagement, which will facilitate the online registration of Consumer Groups, submission of proposals and approval thereof and complaint management.
- BIS plans to implement One Nation, One Standard which is under examination and will be launched soon.

- For that purpose, it has formulated a scheme for the recognition of other Standard Development Organizations in the country with the objective of harmonization of the standard formulation.

- The Standard National Action Plan has been approved and important sectors of the economy for the development of standards have been identified.

- BIS developed Covid-19 standards for Cover-all and Ventilators and issued norms for grant of licence for N95 Masks, surgical masks and eye protectors which has resulted in an increased production of ISI-marked **Personal Protection Equipment (PPE)** items.

- BIS has expanded and modernized its labs and has been creating testing facilities for drinking water and assaying of gold jewellery.

- It has formulated a comprehensive Training Policy and has been imparting training to various stakeholders through its National Institute of Standardization at Noida.

- There have been efforts to integrate the standards into the curriculum of professional education in the country and for that, an Approach Paper has been developed and shared with the Ministry of Human Resource Development, **All India Council for Technical Education (AICTE)** and other stakeholders.

5.23 Risk of Interplanetary Contamination on Mars

- Recently, astrobiologists have expressed concerns about possible **'interplanetary contamination'on Mars** as ambitious space missions are proliferating the space along with advances in commercial flight.

- Interplanetary contamination refers to biological contamination of a planetary body by a space probe or spacecraft, either deliberate or unintentional.

Key Points

- **Context:** In the past several missions have launched to Mars e.g. China's **Tianwen-1** which aims to land on the **Red Planet's surface, and the UAE's Al Amal (Hope)** which does not involve a landing, but an orbital mission that will study the Martian atmosphere.

- The USA will soon launch its Perseverance mission, which would be the **National Aeronautics and Space Administration's (NASA)10th successful Mars landing since 1975.**

- The Perseverance is a rover name for NASA's Mars 2020 mission.

- It will seek signs of ancient life and collect rock and soil samples from the planet.

- In the past, space missions have established physical contact with astronomical bodies such as comets and asteroids, and crewed missions have landed on the Moon.

- However, since these bodies are known to be hostile to life, the possibility of their contamination has not been a pressing issue.

- Type of Contamination: There are two types of contamination i.e. forward and backward contamination.

- Forward Contamination: It means the transport of Earth-based microbes to other celestial bodies.

- Since, presence of liquid water was already discovered on Mars there is a chance that Mars has life and it is an ethical obligation on humanity to ensure that microbes from Earth do not disturb a possible Martian biosphere, allowing it to evolve in its own way.

- Secondly, Earth-based organisms could spoil the integrity of the Red Planet's samples that rovers want to study – a highly disruptive concept for scientists who are looking for signs of native Martian life.

- Back Contamination: It is the transfer of extraterrestrial organisms (if they exist) into the Earth's biosphere.

- The scientists rule out back contamination with respect to Mars sample-return mission as their biochemistry would be markedly different from that on Earth.

Planetary Protection:

- **United Nations Outer Space Treaty of 1967:** It serves as a defence mechanism against the militarisation of space and also requires nations to worry about contamination risks.

- Its 110 state parties include the **USA, Russia, China, and India.**

- To ensure compliance with the Treaty, the **Committee on Space Research (COSPAR)** lays down a **'planetary protection policy'** that aims to limit the number of microbes sent to other planets, as well as ensuring that alien life does not cause havoc on Earth.

- Impact of the Policy: The guidelines have had far-reaching implications on human spacecraft design, operational procedures, and overall mission structure.

- Both NASA and the **European Space Agency (ESA)** have also appointed **Planetary Protection Officers.**

Solutions:

- **Spacecraft Sterilization:** To prevent forward contamination, space missions take care to ensure that spacecraft are sterilised.

- Previous Mars missions, such as NASA's Viking landers of the **1970s**, were all sterilized before being launched into space.

- NASA's Perseverance mission was also postponed for a second time to resolve a potential contamination issue.

- **Containment:** In the case of back contamination, sterilisation would not be an option–as this would ruin the extraterrestrial samples.

- Containment would be the only option to break the chain of contact between possible alien microbes and life on Earth.

5.24 New Research on Smallpox About its Origins

- Recently, a new study carried out by an international team of researchers provides fresh insight into the origins of the Smallpox disease.
- It suggested that the smallpox was in existence as early as during the Viking age in the 8th century CE.
- The Viking Age was the period during the Middle Ages when the Norsemen (name given to the Scandinavian Vikings) undertook colonizing, conquest and trading throughout Europe, and reached North America in the 9th and 10th century.

Key Points

- Origin: The origins of smallpox have always been unclear.
- Until now, the earliest confirmed case of the disease was found in the mummified remains of a 17th century Lithuanian child, even though written records suggest that it is much older.

Major Findings:

- **Finding Virus Sequence:** The Variola virus sequence was recovered from 13 Northern European individuals including 11 dated to 600–1050 CE, overlapping the Viking Age.
- **Pan European Presence:** These sequences, combined with early written records of VARV epidemics in southern and western Europe, suggest a pan-European presence of smallpox from the late 6th century.
- According to the study, the virus was circulating among people even earlier, about 1700 years back at the time when the Western Roman empire declined and people were migrating across Eurasia.
- **Genetic Makeup:** It also suggests that the genetic makeup of the viral strain recovered from the 11 individuals is different from the modern version which was eradicated in 1979-80.
- The Viking variant of the virus is part of a previously unknown, and now extinct virus group, or clade.
- Both the modern smallpox and the ancient variant descended from a common ancestor but diverged 1700 years ago.
- **Course of Evolution:** It was suggested as a benign disease (less dangerous) considering that smallpox may have in the past been a mild.
- In the course of evolution, the active gene count of the virus is shown to have reduced due to mutation.
- Therefore, the researchers speculated that smallpox became more deadly over time.

Implications of the New Research:

- **Information about the Viruses:** The results of the study does not have any impact on the current spread of the Covid-19 pandemic. However, it does provide important information on how a virus may become deadlier over time.
- **Trace of History:** Nonetheless, it is important to note that smallpox is the latest among several other diseases whose history in recent years have been rewritten by ancient DNA analysis.

- Earlier, In **2015**, a study noted that the plague that killed millions in medieval Europe can be traced as far back as the Bronze age between **3000 and 1000 BCE.**
- In 2018, on the other hand, Hepatitis B was seen to have origins in the Bronze age as well.
- **Ways of Spread:** These findings would help to understand the ways in which diseases have affected human populations in the past.
- The DNA evidence suggests that diseases such as plague and hepatitis B are associated with major prehistoric migrations — something that seems now to be true of variola too.
- It would also help to seek answers of whether migrations brought the diseases to new areas or the emergence of disease triggered people to move.

5.25 Pinaka Ammunition:

- It is an all-weather, indirect fire, free flight artillery rocket system developed by **Defence Research and Development Organisation (DRDO).**
- The **Pinaka weapon system** consists of **Rocket, Multi Barrel Rocket launcher, Battery Command Post, Loader cum Replenishment Vehicle, Replenishment Vehicle and Digicora MET Radar.**

Astra Missiles:

- **Astra missile** is developed by **Defence Research and Development Organisation (DRDO).**
- It is a **Beyond Visual Range (BVR)** class of **Air-to-Air Missile (AAM)** system designed to be mounted on fighter aircraft. It has capability to destroy the enemy targets which are beyond their visual range.
- The missile has all weather day and night capability and will serve as a force multiplier and immensely add to the strike capability of the Navy and Air Force.

Long-Range Land Attack Cruise Missile Systems:

- It is developed by Defence Research and Development Organisation (DRDO).
- It is aimed at enhancing the firing range of the Brahmos missile from **400-500 km to 1000 km.**
- Its features include aerodynamic configuration, vertical launch using solid booster, thrust vector control system, booster separation, in-flight wing deployment, in-flight engine start and long range way-point navigation system".
- The proposed development of fully indigenous long-range land attack cruise missiles can greatly enhance the operational capability of services.

MIG 29 Fighter jets:

- It is a twin-engine, multirole fighter jet, developed by the **Soviet Russia** in the **1970s**. It has been upgraded since.

Su-30 MKI Fighter jets:

- The **Sukhoi Su-30** is a twin-engine, two-seat supermaneuverable fighter aircraft developed by Russia's Sukhoi Aviation Corporation.
- It is a multirole fighter for all-weather, air-to-air and air-to-surface deep prohibition missions.

5.26 Dare to Dream 2.0

The **Defence Research and Development Organisation (DRDO)** has launched an innovation contest **'Dare to Dream 2.0'** on the 5th death anniversary of former **President Dr. APJ Abdul Kalam.**

Key Points

- The 'Dare to Dream 2.0' is an open challenge to promote the innovators and startups of the Country, for innovation in defence and aerospace technologies in the country after the call of Atmanirbhar Bharat.
- Award money, up to **Rs.10 lakh** for startup and **Rs. 5 lakh** to individual category, will be given to the winners.
- Dr. APJ Abdul Kalam is known as the missile man as he was part of many successful projects for development of ballistic missiles and satellite launch vehicle technologies during his lifetime.
- He was the **11th President of India (from 2002-2007).**

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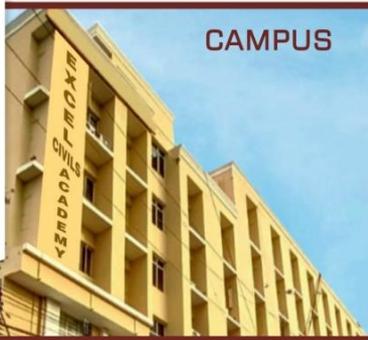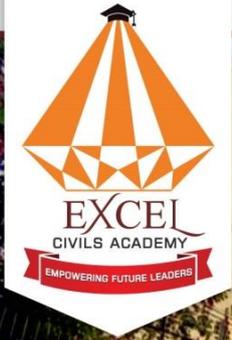
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