



AN INITIATIVE BY  
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**JUNE - 2019**

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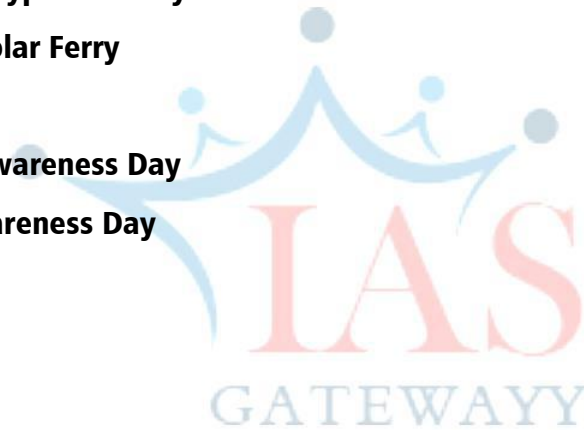
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## 1. POLITY / GOVERNANCE

### 1.1 GOVERNMENT LAUNCHES NEW 'JAL SHAKTI' MINISTRY

#### Why in News?

- ✚ Fulfilling its poll promise, the government has launched a new unified 'Jal Shakti' ministry that is aimed at providing clean drinking water as well as fight India's water woes.

#### Jal Shakti Ministry:

- ✚ The new ministry has been formed by merging the Ministry of Water Resources, River Development and Ganga Rejuvenation and Ministry of Drinking Water and Sanitation. All water related works will be merged under one ministry. The new ministry will encompass issues ranging from providing clean drinking water, international and inter-states water disputes, to the Namami Gange project aimed at cleaning Ganga and its tributaries, and sub tributaries.

#### Why such move?

- ✚ All water projects are complementary to each other. It's good to have one ministry to have an integrated data management system.
- ✚ In two separate ministries, there was no integration and one will not know where the gap is.
- ✚ The need of the hour is the creation of water availability data from various resources on both quality and quantity at one platform.

#### Jal Shakti Abhiyan / "NAL SE JAL:

- ✚ It is a time-bound, mission-mode campaign that would focus on 1,592 "water-stressed" blocks in 257 districts. The campaign will run through citizen participation during the monsoon season, from 1st July, 2019 to 15th September, 2019.
- ✚ The 1,592 blocks, identified as "water-stressed" as per the Central Ground Water Board's 2017 data, include 313 critical blocks, 1,000-odd over-exploited blocks and 94 blocks with least water availability (for states without water-stressed blocks).
- ✚ Jal Shakti Abhiyan is a collaborative effort of various Ministries of the Government of India and State Governments, being coordinated by the Department of Drinking Water and Sanitation.
- ✚ The focus of the campaign is on water stressed districts and blocks. The teams of officers from the central government will visit and work with district administration in 1592 water stressed blocks in 256 districts, to ensure five important water conservation interventions.
- ✚ The **Five Important Water Conservation Interventions** are:
  1. Water conservation and rainwater harvesting,

2. Renovation of traditional and other water bodies/tanks,
3. Reuse of water and recharging of structures,
4. Watershed development and
5. Intensive afforestation.

- ✚ The water conservation interventions will also be supplemented with special interventions including the development of block and district water conservation plans, promotion of efficient water use for irrigation and better choice of crops through Krishi Vigyan Kendras.
- ✚ A large-scale communications campaign has also been planned alongside the JSA involving mass mobilisation of different groups including school students, college students, swachhagrahis, Self Help Groups, Panchayati Raj Institution members, youth groups (NSS/NYKS/NCC), defence personnel, ex-servicemen and pensioners, among various others.

## 1.2 DNA TECHNOLOGY (USE AND APPLICATION) REGULATION BILL

### Why in News?

- ✚ Cabinet has cleared the DNA Technology (Use and Application) Regulation Bill once again, paving the way for its reintroduction in Parliament.

### Highlights of the Bill:

- ✚ As per the Bill, national and regional DNA data banks will be set up for maintaining a national database for identification of victims, suspects in cases, undertrials, missing persons and unidentified human remains.
- ✚ According to it, those leaking the DNA profile information to people or entities who are not entitled to have it, will be punished with a jail term of up to three years and a fine of up to Rs. 1 lakh. Similar, punishment has also been provided for those who seek the information on DNA profiles illegally.
- ✚ As per the bill, all DNA data, including DNA profiles, DNA samples and records, will only be used for identification of the person and not for “any other purpose”.
- ✚ The bill’s provisions will enable the cross-matching between persons who have been reported missing on the one hand and unidentified dead bodies were found in various parts of the country on the other, and also for establishing the identity of victims in mass disasters.
- ✚ The Bill establishes a DNA Regulatory Board to accredit the DNA laboratories that analyse DNA samples to establish the identity of an individual.

## Significance of the Bill:

- ✚ DNA analysis is an extremely useful and accurate technology in ascertaining the identity of a person from his/her DNA sample, or establishing biological relationships between individuals. As a result, DNA technology is being increasingly relied upon in investigations of crime, identification of unidentified bodies, or in determining parentage.
- ✚ **It is expected that the expanded use of DNA technology would result not only in speedier justice delivery but also in increased conviction rates, which at present is only around 30% (NCRB Statistics for 2016).**

### 1.3 Rule 49 MA

## Why in News?

- ✚ The Election Commission may “revisit” the rule for prosecution of a voter for making a false complaint of malfunction of an electronic voting machine or a voter verifiable paper audit trail machine

## Rule 49MA:

- ✚ A voter who claims that the EVM or the VVPAT machine did not record his or her vote correctly is allowed to cast a test vote under Rule 49 MA of the Conduct of Election Rules.
- ✚ However, if the voter fails to prove the mismatch, poll officials can initiate action under Section 177 of the Indian Penal Code for giving a ‘false submission’.
- ✚ The Section says the person “shall be punished with simple imprisonment for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.
- ✚ EC has maintained that if there is no penal provision, people may make false claims.

## Arguments Against the rule:

- ✚ Putting the onus on the elector in cases of arbitrary deviant behaviour of machines used in election process infringes upon a citizen’s right to freedom of expression under the Constitution.
- ✚ Penal Provisions could deter an elector from coming forth and making any complaint which is an essential ingredient in a continuous exercise for improving a process.
- ✚ The elector cannot be convicted by the evidence of second vote for the alleged incorrect reporting of the discrepancy in the first vote cast in absolute secrecy, unless and until he himself is made a witness in his own case, in violation of the provision of Article 20(3) of the Constitution. Due to the pre-programmed deviant behaviour of electronic machines it is not necessary that he can produce the same result.



## 1.4 TRAFFIC INDEX 2018

### Why in News?

- ✚ A recent study has ranked Mumbai as the most traffic-congested city in the world for the second straight year, and Delhi at fourth place.

### Traffic Index 2018:

- ✚ The findings published are part of the Traffic Index 2018 published by TomTom, an Amsterdam-based company.
- ✚ It offers traffic solutions, uses location technology to collect traffic information, and has been publishing city rankings for eight years.
- ✚ The index factors for peak hours, accidents, inclement weather, construction work and all other factors likely to cause disruptions.
- ✚ The latest index ranks 403 cities across 56 countries, including 13 new cities.

### Defining Congestion:

- ✚ For this study, congestion has been defined in terms of the additional time taken to reach a destination as opposed to when the road would have been clear of traffic.
- ✚ Mumbai's 2018 congestion level of 65%, therefore, means that the extra travel time is 65% more than an average trip would take during uncongested conditions.
- ✚ For Delhi, by the same yardstick, the extra travel time is 58% more.

### Around the world:

- ✚ Nearly 75% of the cities part of the 2018 index had increased or stable congestion levels between 2017 and 2018, with only 90 cities showing measurable decreases, states the report.
- ✚ Congestion in Jakarta, for example, decreased by 8 percentage points while that in Lima rose by the same number of points.

## 1.5 NATIONAL ACCREDITATION BOARD FOR CERTIFICATION BODIES (NABCB)

### Why in news?

- ✚ The National Accreditation Board for Certification Bodies (NABCB), India's national accreditation body, secured international equivalence for its accreditation programme for personnel certification bodies in the annual meetings of the Asia Pacific Accreditation Cooperation in Singapore today.

## Highlights:

- NABCB has currently accredited one certification body for Personnel Certification and has 4 applicants. This programme will help professionals to get certified based on their competence in any required field. NABCB is already supporting Ministry of AYUSH and has accredited a certification body for certification for Yoga professionals. This would promote Yoga certification scheme internationally.

## Significance:

- With the above recognition, NABCB hopes to facilitate export of Indian services and skills into the world market by attesting that persons are certified following international standards by the certifying bodies. Personnel Certification would support many professionals in India, especially those who do not have formal education or certificate programme.
- Any person carrying ISO/IEC 17024 certificate with NABCB logo will be recognized internationally. It can also be used by regulators for establishing confidence in certified personnel for different activities. This signifies that the accreditation of personnel certification bodies by NABCB is now accepted as equivalent at international level

## NABCB:

- NABCB, a constituent Board of the Quality Council of India provides accreditation to Certification and Inspection Bodies based on assessment of their competence as per the Board's criteria and in accordance with International Standards and Guidelines.
- NABCB is internationally recognized and represents the interests of the Indian industry at international forums through membership and active participation with the objective of becoming a signatory to international Multilateral / Mutual Recognition Arrangements (MLA / MRA).

## 1.6 CENTRAL EQUIPMENT IDENTITY REGISTER (CEIR)

### Why in News?

- In a bid to curtail the rampant cloning and theft of mobile phones across the country, the Telecom Ministry is ready to roll out a Central Equipment Identity Register (CEIR) — a database of IMEIs, the 15-digit numbers that uniquely identify each mobile device.

### Central Equipment Identity Register:

- The concept of a central identity register is advocated by the GSM Association (GSMA), a body representing mobile operators, equipment manufacturers, and software and internet companies, among other stakeholders in the telecom ecosystem.

- ✚ In India, the plan to prepare the registry of mobile identification numbers was first conceived in the National Telecom Policy-2012.
- ✚ A pilot for the project was developed and conducted by state-owned BSNL's IT Project Service unit in Pune.
- ✚ In the interim budget for 2019-20, the government allocated Rs 15 crore to the DoT for the CEIR project.

### Significance:

- ✚ The theft and cloning of mobile phones have become a serious problem.
- ✚ The theft of mobile phones is not just a financial loss but also a threat to personal life of the citizens as well as national security.

### How will database work?

- ✚ In line with global practices, DoT's identity register will be a database of IMEI numbers that will consist of three lists – white, grey and black. Mobile phones with IMEI numbers in the white list will be permitted for use, while those in the blacklist will be the ones that are reported stolen or lost and will not be allowed to access the network. Devices with IMEI numbers in the greylist will be the ones that do not conform to standards but will be permitted to connect under supervision.

### Utility of CEIR:

- ✚ Once implemented in the coming weeks, consumers in India whose mobile phones are lost or stolen can inform the Department of Telecom (DoT) via a helpline number after filing a report with police. The DoT can then blacklist the IMEI number, effectively blocking the mobile device from accessing any cellular network in the future.
- ✚ The CEIR will have access to GSMA's global IMEI database, allowing comparison of IMEI numbers to identify counterfeit devices.

### IMEI:

- ✚ The International Mobile Equipment Identity or IMEI is a number, usually unique to identify 3GPP and mobile phones, as well as some satellite phones.
- ✚ GSM networks use the IMEI number to identify valid devices, and can stop a stolen phone from accessing the network. For example, if a mobile phone is stolen, the owner can have their network provider use the IMEI number to blacklist the phone. This renders the phone useless on that network and sometimes other networks, even if the thief changes the phone's subscriber identity module (SIM). The IMEI only identifies the device and has no particular relationship to the subscriber.

- ✚ The phone identifies the subscriber by transmitting the International mobile subscriber identity (IMSI) number, which it stores on a SIM card that can, in theory, be transferred to any handset.
- ✚ However, the network's ability to know a subscriber's current, individual device enables many network and security features.

## 1.7 PRESIDENT'S (NOT GOVERNOR'S) RULE IN J&K

### Why in News?

- ✚ Based on the prevailing situation in the state as stated in the report of Governor of J&K, the Union Cabinet has approved the extension of President's Rule in J&K for a further period of six months under article 356(4) of the Constitution of India.

### Why not Governor's Rule?

- ✚ Under Section 92 of the Constitution of Jammu and Kashmir, there is no provision for further continuation of Gov. Rule after six months.
- ✚ Hence, on the recommendation of Governor, the President issues a proclamation promulgating President's Rule in J&K under article 356 of the Constitution of India.

### What is Governor's rule in J&K?

- ✚ In all states of India, the state government's failure results in President's rule.
- ✚ The process is slightly more nuanced in Jammu and Kashmir where not the President's but Governor's rule is imposed.
- ✚ The Constitution of India grants special status to J&K among Indian states, and it is the only state in India to have a separate Constitution and regulations specific to it.
- ✚ Under the provision of Section 92 of the J&K Constitution, Governor's rule is imposed for six months, but only after the consent of the President of India.
- ✚ The President's rule in other states of India is imposed under Article 356 of the Constitution of India. Under the Governor's rule, the State Assembly is either kept in suspended animation or dissolved.

### History of Governor's Rule:

- ✚ The Governor's rule was imposed on the state for the first time in March 1977, when the Congress withdrew support to a government led by the late Sheikh Abdullah.
- ✚ Among notable differences with other states, till 1965, the head of state in J&K was called Sadr-e-Riyasat, whereas in other state, the title was Governor, and head of government was called Prime Minister in place of Chief Minister in other states.

## 1.8 SPACE ACTIVITIES BILL

### Why in news?

- India has begun pre legislative consultations on a “Space Activities Bill” that is designed to encourage domestic private rocket and satellite companies to offer services for Indian and global customers.

### Space Activities Bill, 2017- Provisions:

- The Bill will address the liability issues arising from their space activities, in a suitable/rational manner, in line with international practices.
- The government first introduced the Bill in 2017.
- The provisions of this Act shall apply to every citizen of India and to all sectors engaged in any space activity in India or outside India. A non-transferable licence shall be provided by the Central Government to any person carrying out commercial space activity. The Central Government will formulate the appropriate mechanism for licensing, eligibility criteria, and fees for licence.
- The government will maintain a register of all space objects (any object launched or intended to be launched around the earth) and develop more space activity plans for the country
- It will provide professional and technical support for commercial space activity and regulate the procedures for conduct and operation of space activity
- It will ensure safety requirements and supervise the conduct of every space activity of India and investigate any incident or accident in connection with the operation of a space activity.
- It will share details about the pricing of products created by space activity and technology with any person or any agency in a prescribed manner.
- If any person undertakes any commercial space activity without authorisation, they shall be punished with imprisonment up to 3 years or fined more than ₹1 crore or both.

### Why Reconsider the Bill?

- The current space policy does not cover liabilities for damage to third party space assets although the country is a signatory to the UN Treaties on Outer Space activity.
- The Bill will help formulate necessary rules under the Space Activities Act to deal with damages under the liability provisions and the mode of securing financial guarantee to compensate for damages.
- This bill would address a long-pending concern on covering liabilities in the event of a mishap or damage to spacecraft.

## Global opportunities:

- ✚ India's PSLV has emerged as the preferred rocket to hurl small satellites globally.
- ✚ India is also working on a small satellite launch vehicle that is designed to tap the global opportunity to carry satellites of less than 50 kg into space.
- ✚ The US, France and the EU have legislations that underwrite costs of damage if it exceeds insurance when a private satellite launch goes awry or a rocket hits another object in space.

## 1.9 CENTRAL EDUCATIONAL INSTITUTIONS (RESERVATION IN TEACHERS' CADRE) BILL, 2019

### Why in News?

- ✚ The Central Educational Institutions (Reservation in Teachers' Cadre) Bill, 2019 has been passed by both the houses of Parliament.
- ✚ The Bill will now be sent for President's assent.

### Highlights:

- ✚ The Bill replaces the "The Central Educational Institutions (Reservation in Teachers' Cadre) Ordinance, 2019".
- ✚ The new bill considers the University/College as one unit restoring earlier reservation system based on 200-point roster.
- ✚ No longer will 'Department/Subject' be treated as one unit.

### This Decision Will:

- ✚ Allow up of more than 7000 existing vacancies in Central Educational Institutions and pave the way for filling up 3 lakh vacancies in the Government (Central and State) Educational institutions by direct recruitment in Teacher's Cadre.
- ✚ Ensure compliance of the Constitutional Provisions of Articles 14, 16 and 21.
- ✚ Ensure full representation of the Scheduled Castes/ the Scheduled Tribes, the socially and Educationally Backward Classes and Economically Weaker Sections in direct recruitment in teachers' cadres.
- ✚ This decision is also expected to improve the teaching standards in the higher educational institutions by attracting all eligible talented candidates belonging SCs/STs/SEBCs/EWS.
- ✚ It will also ensure providing of 10% reservation to EWS.

## 1.10 INDIA'S SEZ POLICY REPORT

### Why in News?

- ✚ Ministry of Commerce & Industry to study the existing SEZ policy of India constituted Baba Kalyani led committee which submitted its report to the Union Minister for Commerce & Industry and Civil Aviation, Suresh Prabhu, in New Delhi.

### Key Highlights:

- ✚ India is going to become a USD 5 trillion economy by 2025 then the current environment of manufacturing competitiveness and services has to undergo a basic paradigm shift.
- ✚ The report notes that the success seen by services sectors like IT and ITES has to be promoted in other services sector like health care, financial services, legal, repair and design services.
- ✚ The Union Government has set the target of creating 100 million jobs and achieving 25 per cent of GDP from the manufacturing sector by 2022, as a part of its flagship 'Make in India' programme.
- ✚ The Government also plans to increase manufacturing value to USD 1.2 trillion by 2025.
- ✚ While these are ambitious plans to propel India into a growth trajectory, it requires an evaluation of existing policy frameworks to catalyse manufacturing sector growth.
- ✚ At the same time, the policy needs to be compiled with the relevant WTO regulations.
- ✚ The suggestions and findings of the committee constructive will be sent to the Commerce Ministry will immediately begin formal consultations with the Finance Ministry and other Ministries so that implementation of the committee's recommendations may be done without any delay.

### The key findings of the committee:

- ✚ To evaluate the SEZ policy and make it WTO compatible
- ✚ To suggest measures for maximising utilisation of vacant land in SEZs
- ✚ To suggest changes in the SEZ policy based on international experience
- ✚ To merge the SEZ policy with other Government schemes such as coastal economic zones, Delhi-Mumbai industrial corridor, national industrial manufacturing zones and food and textiles parks.

### History of India's SEZ Policy:

- ✚ India's SEZ Policy was implemented from April 1, 2000. Subsequently the Special Economic Zones Act, 2005 was passed by Parliament in May 2005 and received presidential assent on the June 23, 2005 and the Special Economic Zone Act was enacted.
- ✚ The SEZ Act, 2005, supported by SEZ Rules, came into effect on February 10, 2006.

- ✚ The commerce ministry has been consistently lobbying with the finance ministry to exempt units in the SEZs from the minimum alternate tax (MAT), imposed on them in 2011.
- ✚ In June 2018, the Union Commerce Ministry set up a committee headed by Bharat Forge chairman Baba Kalyani to make its special economic zone (SEZ) policy compatible with World Trade Organisation (WTO) rules after the US challenged India's export subsidy programme at the multilateral trade body.

## 1.11. THE MUSLIM WOMEN (PROTECTION OF RIGHTS ON MARRIAGE) BILL, 2019

- ✚ **Context:** Recently the bill has been introduced in the Lok Sabha amid protests. The bill will replace the Ordinance issued by the Government earlier in February 2019.

### Significant Features of the Bill:

- ✚ The Bill makes all declaration of talaq, including in written or electronic form, to be void (i.e. not enforceable in law) and illegal.
- ✚ It defines talaq as talaq-e-biddat or any other similar form of talaq pronounced by a Muslim man resulting in instant and irrevocable divorce.
- ✚ **Talaq-e-biddat** refers to the practice under Muslim personal laws where pronouncement of the word 'talaq' thrice in one sitting by a Muslim man to his wife results in an instant and irrevocable divorce.
- ✚ The Bill makes declaration of talaq a cognizable offence, attracting **up to three years' imprisonment with a fine.**
- ✚ **Cognizable offence** is one for which a police officer may arrest an accused person without warrant.
- ✚ The offence will be cognizable only if information relating to the offence is given by:
  - ✚ The married woman (against whom talaq has been declared), or
  - ✚ Any person related to her by blood or marriage.
- ✚ The Bill provides that the Magistrate may grant bail to the accused.
- ✚ The bail may be granted only after hearing the woman (against whom talaq has been pronounced), and if the Magistrate is satisfied that there are reasonable grounds for granting bail.
- ✚ The offence may be compounded by the Magistrate upon the request of the woman (against whom talaq has been declared).



- ✚ Compounding refers to the procedure where the two sides agree to stop legal proceedings, and settle the dispute.
- ✚ The terms and conditions of the compounding of the offence will be determined by the Magistrate.
- ✚ **Allowance:** A Muslim woman against whom talaq has been declared, is entitled to seek subsistence allowance from her husband for herself and for her dependent children. The amount of the allowance will be determined by the Magistrate.
- ✚ **Custody:** A Muslim woman, against whom such talaq has been declared, is entitled to seek custody of her minor children. The manner of custody will be determined by the Magistrate.

## 1.12. E-FOREIGNER TRIBUNAL (e-FT)

### Why in News?

- ✚ The Centre has approved setting up of e-Foreigner Tribunal (e-FT) in Assam.

### E-FT System:

- ✚ **Aim:** To maintain a statewide bio-metric and biographic data and to capture the illegal migrants' data to computerize data flow for all the stakeholders.
- ✚ The proposed integrated e-FT IT system will be implemented across Assam for effective monitoring and resolution of cases registered with Foreigner Tribunal.
- ✚ The main objective of the project is to maintain a statewide bio-metric and biographic data, to capture the illegal migrants' data to computerize data flow for all the stakeholders.
- ✚ It will also help in the legalization of eligible beneficiaries for welfare schemes.
- ✚ The new IT system will not only strengthen the Judiciary in the disposal of cases but also help Police organization in faster detection, prosecution and detention.
- ✚ This will enhance the transparency of case disposal process. It will also help in legalization of eligible beneficiaries for welfare schemes.

## 2. SOCIAL ISSUES

### 2.1 HEALTHY STATE PROGRESSIVE INDIA REPORT (NITI Aayog)

#### Why in News?

- NITI Aayog will release the second edition of “Healthy States, Progressive India”

#### 2<sup>nd</sup> Edition of the Report:

- The Round-II report focuses on measuring and highlighting the overall performance and incremental improvement over a two-year period (2016-17 and 2017-18) in the States and UTs.
- It takes a comprehensive look at health in terms of Health Outcomes, Governance and Processes and impact of policy interventions.
- The report has been prepared in collaboration with the Ministry of Health and Family Welfare (MoHFW) and with technical assistance from the World Bank.

#### First round of the Health Index:

- In 2018, the first round of the Health Index (referred to as 2017 Health Index) was released, which measured the annual and incremental performance of the States and UTs over the period of 2014-15 (base year) to 2015-16 (reference year).
- Among the Larger States, Kerala, Punjab, and Tamil Nadu ranked on top in terms of overall performance, while Jharkhand, Jammu & Kashmir, and Uttar Pradesh were the top three ranking States in terms of annual incremental performance.
- Among Smaller States, Mizoram ranked first followed by Manipur on overall performance, while Manipur followed by Goa were the top ranked States in terms of annual incremental performance.
- Among UTs, Lakshadweep showed both the best overall performance as well as the highest annual incremental performance. Lakshadweep showed the highest improvement in indicators such as institutional deliveries, tuberculosis (TB) treatment success rate, and transfer of National Health Mission (NHM) funds from State Treasury to implementation agency.

### 2.2 JAN SHIKSHAN SANSTHANS

#### Why in News?

- Fee for SC/ST candidates, who join vocational training under Jan Shikshan Sansthan (JSS), has been waived off.
- These decisions aim to further strengthen the skill ecosystem benefiting those in the underprivileged sections of society.

## Jan Shikshan Sansthan (JSS):

- ✚ The scheme of JSS was initially launched in 1967 as Shramik Vidyapeeth, a polyvalent or multi-faceted adult education institution.
- ✚ Formerly under the Ministry of Human Resources Development, JSS was transferred to the Ministry of Skill Development and Entrepreneurship in 2018.
- ✚ It was aimed at improving the vocational skills and quality of life of the industrial workers and their family members as well as those persons who had been migrating from rural to urban settings. Now it has challenging mandate of providing vocational skills to non-literate, neo-literates as well as school drop-outs by identifying skills that have a market in the region of their establishment.

## Scope of work of JSS includes:

- ✚ Develop/Source appropriate curriculum and training modules covering vocational elements general awareness and life enrichment components.
- ✚ Wherever possible, JSSs are encouraged to undertake training equivalent to courses designed by the Directorate of Adult Education, National Institute of Open Schooling and Director General, Employment & Training. Provide training to a pool of resource persons and master trainers for conducting training as also availability of infrastructure and training – specific equipment.
- ✚ Administer simple tests and award certificates.
- ✚ Network with employers and industries for trainees to get suitable placements

## 2.3 WORLD POPULATION PROSPECT 2019

### Why in News?

- ✚ In just eight years, India is projected to surpass China as the world's most populous country.
- ✚ According to estimates in a new United Nations report released Monday, India is also expected to add 273 million people by 2050 and will remain the most populated until the end of the century.
- ✚ World Population Prospects 2019' is published by the Population Division of the UN Department of Economic and Social Affairs

### Highlights:

- ✚ The report stated that in 2019, India has an estimated population of 1.37 billion and China 1.43 billion and by 2027, India's population is projected to surpass China's.
- ✚ India is expected to remain the world's most populous country with nearly 1.5 billion inhabitants, followed by China at 1.1 billion, Nigeria with 733 million, the United States with 434 million, and Pakistan with an estimated population of 403 million.

- ✚ However, while India may have the highest absolute increase in numbers, its rate of growth is slowing.
- ✚ India is still among the countries where the working-age population (25-64 years) is growing faster than other groups, creating an opportunity for accelerated economic growth. However, the “demographic dividend” will peak by 2047 in the region, meaning that countries such as India must rush to invest in education and health, especially for young people, the report says.
- ✚ Overall report states, the world’s population is ageing, with the age group of 65 and above growing at such a fast rate that by 2050, one in six people in the world will be part of it as compared to one in 11 in 2019.

## 2.4 E-CIGARETTES POSE PUBLIC HEALTH RISK, SAYS ICMR

### Why in News:

- ✚ The Indian Council of Medical Research (ICMR) has warned of a potential public health disaster if action was not taken to completely prohibit and dissuade the use of Electronic Nicotine Delivery Systems (ENDS) or e-cigarettes.

### Details:

- ✚ The nicotine delivered by these devices adversely affect almost all systems in a human body.
- ✚ E-cigarette use adversely affects the cardiovascular system, impairs respiratory immune cell function and airways in a way similar to cigarette smoking and is responsible for severe respiratory disease.
- ✚ It also poses risk to foetus, infant, and child brain development

### Harmful Effects:

- ✚ “Use of e-cigarettes has documented adverse effects on humans which include DNA damage; carcinogenesis; cellular, molecular and immunological toxicity; respiratory, cardiovascular and neurological disorders and adverse impact on foetal development and pregnancy,” Given the harmful health effects e-cigarettes pose to users, as well as passive exposure, failure to make appropriate interventions at the right time could lead to a public health disaster in India.

### Urges Complete Ban:

- ✚ There are more than 460 different e-cigarette brands with varying configurations of nicotine delivery available in the market, according to the ICMR. The ICMR has recommended complete prohibition on ENDS or e-cigarettes in India in the greater interest of protecting public health. E-cigarettes also open a gateway for new tobacco addiction, which is a potential threat to the country’s tobacco control laws and ongoing tobacco control programmes and efforts

## ICMR:

- ✚ ICMR is India's apex scientific body for the formulation, coordination and promotion of biomedical research. It was established in 1911 as Indian Research Fund Association (IRFA) making it one of oldest and largest medical research bodies in the world. The ICMR functions under Department of Health Research, Ministry of Health and Family Welfare. It is headquartered in New Delhi.

## 2.5 ACUTE ENCEPHALITIS SYNDROME (AES) OUTBREAK IN BIHAR

### Why in News?

- ✚ An epidemic of Acute Encephalitis Syndrome (AES) has broken out in five north Bihar districts, with more than 50 children having died in the last nine days. Locally known as Chamki Bukhar, at least 400 children have died in the last one decade due to AES in these districts. AES is a clinical condition most widely caused by infection with Japanese encephalitis virus (JEV) or other infectious and non-infectious causes. **Symptoms of AES:** The signs and symptoms of AES include – an acute onset of fever, headache and clinical neurological manifestation that includes mental confusion, disorientation, delirium, or coma.

### Who is at risk?

- ✚ People in rural areas where the virus is common are at greater risk. But the incidence was highest among children 0-6 years of age. People with weakened immune system – for instance, who have HIV/AIDS, take immune-suppressing drugs – are at an increased risk of encephalitis.

### Treatment for AES:

- ✚ People suffering from encephalitis need to be treated urgently.
- ✚ Treatment may include antiviral medication, steroid injections among others to support the body, relieve the symptoms. Other treatment options are – bed rest, plenty of fluids, anti-inflammatory drugs to relieve the symptoms such as fever and headache.
- ✚ There is no cure for the disease. However, safe and effective vaccines are available to prevent encephalitis.

## 2.6 JANANI SURAKSHA YOJANA

### Janani Suraksha Yojana (JSY):

- ✚ Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NHM).

- ✚ It is being implemented with the objective of reducing maternal and infant mortality by promoting institutional delivery among pregnant women.
- ✚ The scheme is under implementation in all states and Union Territories (UTs), with a special focus on Low Performing States (LPS).
- ✚ It was launched in April 2005 by modifying the National Maternity Benefit Scheme (NMBS).
- ✚ The NMBS came into effect in August 1995 as one of the components of the National Social Assistance Programme (NSAP).
- ✚ The scheme was transferred from the Ministry of Rural Development to the Department of Health & Family Welfare during the year 2001-02.

### Various measures under JSY:

- ✚ The scheme focuses on the poor pregnant woman with special dispensation for States having low institutional delivery rates namely the States of UP, Uttaranchal, Bihar, Jharkhand, MP, Chhattisgarh, Assam, Rajasthan, Orissa and J&K. While these States have been named as Low Performing States (LPS), the remaining States have been named as High performing States (HPS). Exclusion criteria of age of mother as 19 years or above and up to two children only for home and institutional deliveries under the JSY have been removed.
- ✚ Eligible mothers are entitled to JSY benefit regardless of any age and any number of children.
- ✚ BPL pregnant women, who prefer to deliver at home, are entitled to a cash assistance of Rs 500 per delivery regardless of age of women and the number of children.
- ✚ States are encouraged to accredit private health facilities for increasing the choice of delivery care institutions.

## 2.7 NATIONAL CHILD LABOUR PROJECT SCHEME & PROJECT SCHEME

### Why in news?

- ✚ Under the NCLP Scheme, children in the age group of 9-14 years are rescued/withdrawn from work and enrolled in the NCLP Special Training Centres, where they are provided with bridge education, vocational training, mid-day meal, stipend, health care, etc. before being mainstreamed into formal education system.

### Scheme and Objectives:

- ✚ Children in the age group of 5-8 years are directly linked to the formal education system through a close coordination with the Sarva Shiksha Abhiyan (SSA).
- ✚ This is the major Central Sector Scheme for the rehabilitation of child labour.
- ✚ The Scheme seeks to adopt a sequential approach with focus on rehabilitation of children working in hazardous occupations & processes in the first instance.

- ✚ Under the Scheme, survey of child labour engaged in hazardous occupations & processes has been conducted. The identified children are to be withdrawn from these occupations & processes and then put into special schools in order to enable them to be mainstreamed into formal schooling system. Project Societies at the district level are fully funded for opening up of special schools/Rehabilitation Centres for the rehabilitation of child labour.
- ✚ The special schools/Rehabilitation Centres provide:
  1. Non-formal/bridge education
  2. Skilled/vocational training
  3. Mid-Day Meal
  4. Stipend @ Rs.150/- per child per month.
  5. Health care facilities through a doctor appointed for a group of 20 schools.

## **2.8 SAMAGRA SHIKSHA ABHIYAAN**

### **Why in News?**

- ✚ The scheme envisages the 'school' as a continuum from pre-school, primary, upper primary, secondary to Senior Secondary levels.
- ✚ The vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage in accordance with the Sustainable Development Goal (SDG) for Education.
- ✚ Samagra Shiksha is formed by subsuming three erstwhile Centrally Sponsored Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha and Teacher education (TE).

### **Objectives:**

- ✚ Major Objectives are provision of quality education and enhancing learning outcomes of students; Bridging Social and Gender Gaps in School Education; Ensuring equity and inclusion at all levels of school education; Ensuring minimum standards in schooling provisions; Promoting Vocationalisation of education; Support States in implementation of Right of Children to Free and Compulsory Education (RTE) Act, 2009; and Strengthening and up-gradation of SCERTs/State Institutes of Education and DIET as a nodal agencies for teacher training.

### **Outcomes:**

- ✚ Universal Access, Equity and Quality, promoting Vocationalisation of Education and strengthening of Teacher Education Institutions (TEIs).

## 2.9 AYUSHMAN BHARAT PRADHAN MANTRI JAN AROGYA YOJANA (PMJAY)

### Why in News?

- Government of India has launched Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) on 23.09.2018.

### Highlights:

- PMJAY is centrally sponsored scheme. It is entirely funded by Government and the funding is shared between Centre and State governments as per prevailing guidelines of Ministry of Finance. PMJAY provides health coverage up to Rs. 5 lakh per family per year for secondary and tertiary hospitalization to around 10.74 crore poor and vulnerable families (approx. 50 crore beneficiaries).
- PMJAY is an entitlement-based scheme. This scheme covers poor and vulnerable families based on deprivation and occupational criteria as per SECC database.
- PMJAY provides cashless and paperless access to services for the beneficiary at the point of service in any (both public and private) empanelled hospitals across India. In other words, a beneficiary from one State can avail benefits from an empanelled Hospital anywhere in the Country. Under PMAJY, the States are free to choose the modalities for implementation. They can implement the scheme through insurance company or directly through the Trust/ Society or mixed model.
- There is no restriction on family size, ensuring all members of designated families specifically girl child and senior citizens get coverage.
- A well-defined Complaint and Public Grievance Redressal Mechanism, has been put in place through which complaints/ grievances are registered, acknowledged, escalated for relevant action, resolved and monitored.
- PMJAY has created a robust IT system for implementation and role of real time transaction data. At National level, National Health Authority (NHA) has been set up as an attached office to the Ministry of Health and Family Welfare to manage the implementation of the scheme.
- No money is released to the beneficiary and payment is made directly to the hospitals by State Health Agency (SHA) in case of Trust Mode, and by Insurance company in case of Insurance mode.

### Ayushman Bharat – Health and Wellness Centres (AB-HWCs):

- Under AB-HWC, Comprehensive Primary Healthcare is being provided which includes promotive, preventive, curative, palliative and rehabilitative services.



- ✚ The AB-HWCs are envisioned to provide an expanded range of services to include care for non – communicable diseases, palliative and rehabilitative care, Oral, Eye and ENT care, mental health and first level care for emergencies and trauma as well as Health promotion and wellness activities like Yoga apart from services already being provided for Maternal and Child Health including immunization and communicable diseases.
- ✚ To provide comprehensive health coverage to the beneficiaries, free essential drugs and diagnostic services are also being provided through these AB-HWCs.

## 2.10 MENSTRUAL HYGIENE DAY 2019

### Why in News?

- ✚ The MH Day seeks to break the silence, raise awareness and change the negative social norms surrounding menstrual hygiene.

### Highlights:

- ✚ The world is slowly moving towards removing the social stigma surrounding menstruation, the word ‘period’ still remains a taboo in most societies. In most countries, girls still avoid going to school when they are on their period.
- ✚ Women in rural areas or in poverty-ridden nations still use paper and other harmful materials such as dried leaves and plastic as a substitute for sanitary pads.
- ✚ The main theme of this year’s Menstrual Hygiene Day is ‘It’s Time for Action!’ The day aims to ensure no girl is left behind. In the year 2018, around 310 organizations educated around 27.2 million girls across 134 countries. For the year 2019, the participating organizations are committed to educating a total of 41.4 million girls across the world.

### Menstrual Hygiene Day:

- ✚ The Menstrual Hygiene Day (MH Day) is a global advocacy platform that brings together the voices and actions of non-profits, government agencies, individuals, private sector and the media to promote good menstrual hygiene management (MHM) for all women and girls.

### Vision:

- ✚ To create a world in which every woman and girl is empowered to manage her menstruation safely, hygienically, with confidence and without shame, where no woman or girl is limited by something as natural and normal as her period.

### Objective:

- ✚ The MH Day seeks to break the silence, raise awareness and change the negative social norms surrounding menstrual hygiene.
- ✚ It encourages and engages decision-makers to increase emphasis on the issue and mobilize action to create more awareness at global, national and local levels.

## Why do we need the day?

- ✚ Poor menstrual hygiene along with limited access to hygienic menstrual products and poor sanitation infrastructure undermine the educational opportunities, health and overall social status of women and girls around the world. As a result of this, millions of women and girls are kept from attaining their full potential. Hence, the day aims to educate people around the world regarding the persisting taboos and stigma associated with menstruation, as the primary reason for poor menstrual hygiene is the lack of education.



## 3. INTERNATIONAL RELATIONS

### 3.1 REGIONAL COOPERATION AGREEMENT ON COMBATING PIRACY AND ARMED ROBBERY AGAINST SHIPS IN ASIA (ReCAAP)

#### Why in News?

- ✚ The Indian Coast Guard (ICG) will be co-hosting an international workshop that aims to deepen knowledge on issues related with piracy and armed robbery, the maritime agency said.
- ✚ The two-day workshop has been organised in cooperation with the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC).

#### ReCAAP:

- ✚ The ReCAAP stands for Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia. It is the first regional Government-to-Government agreement to deal with piracy and armed robbery at sea in Asia. The ReCAAP Information Sharing Centre (ReCAAP ISC) was established under the Agreement and was officially launched on 29 November 2006 in Singapore. Presently, 20 countries are members of the ReCAAP including Australia, US, Japan, China and Bangladesh (Pakistan is not a member). India had played an active role in setting up and functioning of the ReCAAP ISC along with Japan and Singapore. The Centre has designated the ICG as the focal point within India for the ReCAAP.

### 3.2 NEW START POLICY

#### Why in News?

- ✚ Russian has warned to US to withdraw the Obama-era nuclear weapons pact New START due to the US disinterest in its renewal.

#### New START Pact:

- ✚ The New Strategic Arms Reduction Treaty (New START) pact limits the number of deployed nuclear warheads, missiles and bombers and is due to expire in 2021 unless renewed.
- ✚ The treaty limits the US and Russia to a maximum of 1,550 deployed nuclear warheads and 700 deployed missiles and bombers, well below Cold War caps.
- ✚ It was signed in 2010 by former US President Barack Obama and then-Russian President Dmitry Medvedev. It is one of the key controls on superpower deployment of nuclear weapons.
- ✚ If it falls, it will be the second nuclear weapons treaty to collapse under the leadership of US President Donald Trump.
- ✚ In February, US withdrew from the 1987 Intermediate-Range Nuclear Forces Treaty (INF), accusing Moscow of violating the agreement.

### 3.3 BISHKEK DECLARATION 2019

#### Why in News?

- ✚ The heads of the Member States reviewed the implementation of the results of the Qingdao Summit and the priority goals for Shanghai Cooperation Organisation (SCO) development in
- ✚ The context of current global political and economic processes. The Bishkek Declaration 2019 was adopted by the Member states.

#### The Declaration: / Economy:

- ✚ Expanding and deepening cooperation in trade, finance, investment, transport, energy, agriculture, innovation, cutting-edge technology, etc. Serious attention will be given to increasing the share of national currencies in mutual financial transactions and settlements. The SCO Member States will promote exchange of experience and further development of international cooperation in countering corruption. Promote the development of technology parks and business incubators in the SCO region for the purpose of improving the regional business climate and supporting youth startup projects, including the International Youth Business Incubator of SCO countries within the framework of the SCO Youth Council.

#### Security:

- ✚ The Member States resolutely condemn terrorism in all its forms and manifestations. They urge the international community to strengthen global cooperation in efforts against terrorism in line with the UN Charter and the principles of international law, without politicisation and double standards, while respecting the sovereignty and independence of all states.
- ✚ The declaration also pressed for consensus regarding the adoption of the Comprehensive Convention on International Terrorism. Ensure the earliest possible enactment of a protocol on security guarantees to the Central Asian Nuclear-Weapons-Free Zone Treaty for all signatory states. Honouring the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and their Destruction. Supported the work of the government and people of Afghanistan (with support from the international community) for restoring peace and ensuring the country's sustained development. There is no alternative to resolving the situation in Syria through dialogue, while ensuring Syria's sovereignty, independence and territorial integrity.

#### Narcotic Drug Threat:

- ✚ Need to address the illegal cultivation, production, circulation, sales and dissemination of narcotic drugs, psychotropic substances and precursors.

#### Space:

- ✚ Keeping outer space free from weapons and importance of peaceful uses of outer space.

### 3.4 EASTERN ECONOMIC FORUM

- ✚ The Eastern Economic Forum was established by Decree of the President of the Russian Federation Vladimir Putin in 2015. In accordance with the Decree, the Eastern Economic Forum takes place each year in Vladivostok.
- ✚ Every year, the Eastern Economic Forum serves as a platform for the discussion of key issues in the world economy, regional integration, and the development of new industrial and technological sectors, as well as of the global challenges facing Russia and other nations.

#### Objectives:

- ✚ Strengthening ties between the international investment community, Russian business, and federal, regional, and local government bodies
- ✚ Conducting a comprehensive expert assessment of the economic potential of the Russian Far East and improving the region's competitiveness and attractiveness to investors both nationally and internationally. Showcasing new investment and business opportunities such as advanced special economic zones, Vladivostok Free Port, and state support for high-potential investment projects. India and China will meet along with Russia in the side-lines of Eastern Economic Forum apart from a trilateral meeting during the G20 summit. Such a meeting would add weightage to the global significance of Eurasian region.

### 3.5 IRAN – US NUCLEAR ISSUE

#### Context:

- ✚ U.S withdrawn from JCPOA after Donald Trump had become the President of the country.

#### What is JCPOA?

- ✚ Joint Comprehensive Plan of Action is an agreement reached between Iran and P5+1 nation on the issue of nuclear enrichment process happening in Iran.
- ✚ It was adopted on July 14, 2015 and later endorsed by the United Nations Security Council Resolution 2231 on July 20, 2015.

#### Who are the Members?

- ✚ Iran and (P5= U.S, Britain, Italy, China, Russia) + Germany

#### Who is the Implementing Agency?

- ✚ Iran's compliance with the nuclear related provisions will be verified by the International Atomic Energy Agency (IAEA).
- ✚ **Core Issue:** The Western nations suspect Iran is enriching uranium to the levels required to make nuclear bombs. Such an action by Iran could trigger an all-out war in the Gulf region as Iran is a hostile nation to most of the Sunni dominated Gulf region and the Western countries.

- ✚ **Arak Reactor:** JCPOA demands Iran to shut down the Arak nuclear reactor. Replace the core of the Arak reactor to reduce the weapons grade plutonium output.
- ✚ **Fordow:** For 15 years no introduction of Uranium to this facility. However, after the U.S withdrawal from the deal, Iran has decided to scale back compliance with a nuclear deal unless the signatories to the JCPOA show positive response.
- ✚ **CAATSA:** Countering America’s Adversaries through Sanctions Act. This law has used by the U. S government to impose sanctions on Iran, Russia and N.Korea.

### 3.6 G-20 SUMMIT

#### Why in News?

- ✚ After the Asian Financial Crisis in 1997-1998, it was acknowledged that the participation of major emerging market countries is needed on discussions on the international financial system, and G7 finance ministers agreed to establish the G20 Finance Ministers and Central Bank Governors meeting in 1999.
- ✚ The G20 Finance Ministers and Central Bank Governors meetings were centered on major economic and monetary policy issues amongst major countries in the global financial system and aimed at promoting cooperation toward achieving stable and sustainable global economic growth for the benefit of all countries. The participating members in the meetings were the same as the current G20 members.

#### G-20:

- ✚ The Group of 20 nations (G20) is an international grouping made up of Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, and the United States.
- ✚ The G20 Summit is formally known as the “Summit on Financial Markets and the World Economy”.
- ✚ Spain is a permanent guest invitee. It was established in 1999 to broaden the remit of the G7 – a grouping of the world’s most powerful nations, and its primary mandate is to “prevent future international financial crises”.
- ✚ The host country of the G20 summit leads the group over the course of one year from December through the following November as the G20 presidency. The G20 presidency also organizes relevant ministerial and working group meetings.
- ✚ Leaders initially met twice a year, but this was reduced to once a year since 2011. The leaders’ meetings are usually preceded by ministerial meetings by trade ministers, finance ministers and central bank governors, which are designed to set the agenda for the meetings of the world’s most powerful leaders.

## Achievements:

- ✚ In 2009, when the UK held a special spring summit, former Prime Minister Gordon Brown orchestrated a deal in which world leaders agreed on a \$1.1 trillion injection of financial aid into the global economy. The G20 so far has made important progress in reshaping the governance of global finance by implementing macro-prudential policies, developing strict rules on the “too big to fail” problem, increasing the lending capacity of the International Monetary Fund (IMF) and collecting richer information on the shadow banking system.
- ✚ The G-20 has also played a crucial role in strengthening the international financial regulatory system, including better coordination across countries.

## Challenges:

- ✚ The G20 is widely perceived to have failed to address global inequality. The expansion of the G7 to include more emerging economies brought hope that this would be addressed, but in most member states, inequality is widening. The G20, like many plurilateral organisations, is often dismissed as a “talking shop”, where leaders offer plenty of bluster, but achieve very little material progress.

## Osaka Meet decisions concerning India:

- ✚ 2019 G20 meet happened in Osaka Japan. Prime Minister Narendra Modi and United States President Donald Trump came closer to resolving trade issues when they met in Osaka, but on technological issues such as data storage and 5G Network, India placed itself across the divide from Japan and the U.S., and alongside leaders of BRICS. The initiative for free flow of data, announced by Japanese Prime Minister Shinzo Abe in January, came after the Reserve Bank of India’s guidelines mandating that the storage of all financial data, including by multinational companies, must be kept on servers in India.

## 3.7 UNITED NATIONS SECURITY CONCIL

### Context:

- ✚ India won non-permanent seat in UN security council for 2021-2022.
- ✚ All 55- members of Asia Pacific supported India’s bid for Membership to UNSC
- ✚ China and Pakistan both supported our bid for membership.
- ✚ Previously, India has been elected as a non-permanent member of the Council for the years 1950–1951, 1967–1968, 1972–1973, 1977–1978, 1984–1985, 1991–1992 and most recently in 2011–2012.

## What is UNSC:

- ✚ Organ of United Nations Organisation
- ✚ The Security Council is primarily responsible for the maintenance of international peace and security.

## Members:

- ✚ It has 15 Members, and each Member has one vote. Under the Charter of the United Nations, all Member States are obligated to comply with Council decisions.
- ✚ **Five Permanent Members:** China, France, Russian Federation, The United Kingdom, and The United States, and ten non-permanent members elected for two-year terms by the General Assembly (with end of term year):
- ✚ Belgium (2020), Cote d'Ivoire (2019), Dominican Republic (2020), Equatorial Guinea (2019), Germany (2020), Indonesia (2020), Kuwait (2019), Peru (2019), Poland (2019), South Africa (2020).

## VETO Power:

- ✚ Role of non-permanent members in the work of the Security Council is limited since right of veto is restricted only to the permanent members in the UNSC.
- ✚ Under the terms stipulated by the UN Charter, the right of veto of the permanent members of the Security Council is restricted, i.e. it does not apply in cases of a procedural nature (related primarily to the functioning of the Security Council itself).

## The Regional Groupings in UN are:

- ✚ African Group
- ✚ Asia and the Pacific Group
- ✚ Eastern European Group
- ✚ Latin American and Caribbean States Group (GRULAC)
- ✚ Western European and Others Group (WEOG)
- ✚ UN member not in any voting group

## India's Stand- UNSC:

- ✚ India has been calling for the reform of the UN Security Council along with Brazil, Germany and Japan for long, emphasizing that it rightly deserves a place at the UN high table as a permanent member.
- ✚ India was among the **Founding Members of United Nations.**
- ✚ It is the second largest and a one of the largest constant contributors of troops to **United Nations Peacekeeping Missions.**



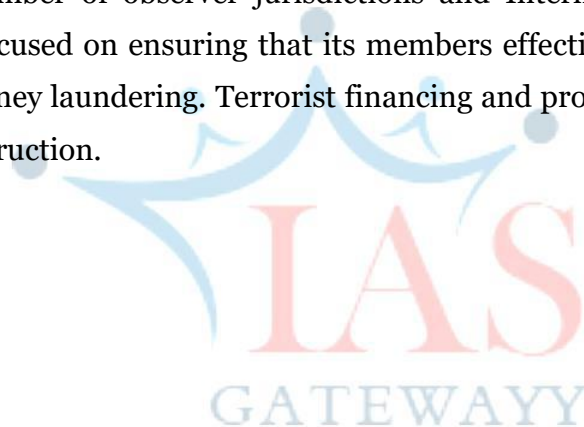
- Today, India has over 8,500 peacekeepers in the field, more than twice as many as the UN's five big powers combined.
- India, since long time, has been demanding expansion of UNSC and its inclusion as permanent member in it. It has been a member of UNSC for 7 terms and a member of G-77 and G-4, so permanent membership is a logical extension.

### 3.8 ASIA PACIFIC GROUP ON MONEY LAUNDERING

- Context:** APG on Money Laundering supported India's bid to become a non-permanent member of UNSC.

#### About APG on Money Laundering:

- It is **FATF** – Style regional body for Asia – pacific Region. It is inter – governmental (International) Organisation founded in 1997 in Bangkok, Thailand, It consists of 41 member Jurisdictions and number of observer jurisdictions and International / Regional Observer organisations. It is focused on ensuring that its members effectively implement international standards against money laundering. Terrorist financing and proliferation financing related to weapons of mass destruction.



## 4. SECURITY

### 4.1 DEFENCE SPACE RESEARCH AGENCY

#### Why in News?

- To enhance the capabilities of the armed forces to fight wars in space, the government has approved the setting up of a new agency which will develop sophisticated weapon systems and technologies.

#### Defence Space Research Agency:

- The Cabinet Committee on Security headed by PM Modi has cleared the setting up of the DSRO. It has been entrusted with the task of creating space warfare weapon systems and technologies.
- The agency would be provided with a team of scientists which would be working in close coordination with the tri-services integrated Defence staff officers.
- It would be providing the research and development support to the Defence Space Agency (DSA) which comprises members of the three services.
- The DSA has been created “to help the country fight wars in the space”.
- The Defence Space Agency is being set up in Bengaluru under an Air Vice Marshal-rank officer and will gradually take over the space-related capabilities of the three forces.

#### Why Such Move?

- In March, India had carried out the Anti-Satellite Test (ASAT) which demonstrated its capability to shoot down satellites and joined an elite club of four nations with similar capability. The test also helped the country develop deterrence capability against adversaries who may want to attack Indian satellites to cripple systems in times of war.

### 4.2 OPERATION SUNSHINE-2

#### Operation Sunshine-2:

- In a coordinated military operation conducted by the armies of India and Myanmar on their respective sides of the border, several camps of NE-based militant groups inside Myanmar territory were destroyed.
- Called ‘Operation Sunshine-2’, the military action that took place between May 16 and June 8, is expected to give a debilitating jolt to insurgencies in the Northeastern states.
- At least seven to eight camps of the NSCN-K, NDFB, ULFA(I), KLO and NEFT in Myanmar’s Sagaing Region were destroyed by the Myanmar Army in mortar firing.

- ✚ Majority of these camps were in Hokayat, and were predominantly of the Naga rebel group, NSCN-K, which had abrogated its ceasefire with the Indian government in 2015.
- ✚ The operation included blocks by two battalions of the Indian Army — along with Special Forces, Assam Rifles and infantry Ghataks — on the Indian side of the border.
- ✚ This was a follow-up to ‘Operation Sunshine-1’ from February 22 to 26, when the Indian Army had acted against suspected Arakanese rebel camps inside Indian Territory.

### 4.3 NASAMS-II

#### Why in News?

- ✚ The United States has approved the sale of armed drones to India also offered integrated air and missile defence systems. Its objective is to improve India’s military capabilities and to protect Indo-Pacific region.
- ✚ US administration is likely to send the final draft of the ‘letter of acceptance’ for the sale of NASAMS-II to India under its foreign military sales programme, at a cost of over Rs 6,000 crore (about US dollar 1 billion), by July-August.

#### NASAMS-II Air Defence system:

- ✚ NASAMS-II (National Advanced Surface to Air Missile System - NASAMS) is an upgraded version of the NASAMS developed by Raytheon in partnership with KONGSBERG Defence and Aerospace of Norway.
- ✚ It has been operational since 2007. It features new 3D mobile surveillance radars and 12 missile launchers for quicker reaction.
- ✚ NASAMS-II is highly adaptable mid-range solution for any operational air defence requirement. It provides tailor-able, state-of-the-art defence system that can maximise the ability to quickly identify, engage and destroy current and evolving enemy aircraft, UAV or emerging cruise missile threats.
- ✚ NASAMS-II is armed with 3D Sentinel radars, short and medium-range missiles, launchers, fire-distribution centres and command and control units to quickly detect, track and shoot down multiple airborne threats.
- ✚ It is part of the air defence network guarding US capital city Washington DC. It is also deployed in several NATO countries.

#### Background:

- ✚ In year 2017, the United States had agreed to sell surveillance version of the Guardian drones to India following a meeting between Prime Minister Narendra Modi and President

Donald Trump. With this offer, India has become the first non-treaty partner to be offered an MTCR Category-1 Unmanned Aerial System - the Sea Guardian UAS manufactured by General Atomics.

- ✚ India signed the S-400 deal with Russia in October 2018 after four years of extensive negotiations and an inter-governmental agreement despite the threat of sanctions under the US law called CAATSA (Countering America's Adversaries through Sanctions Act).

### Significance for India:

- ✚ India's deal of NASAMS-II will help country to protect air route also to prevent 9/11-kind of attacks. It will also complement India's other systems such as the medium and long-range surface-to-air missile (SAM) systems under procurement.
- ✚ With this, India will join League of Nations including US, Russia and Israel etc. who have their own missile defence systems to protect their national capital regions.

## 4.4 'OPERATION SANKALP'

### Why in News?

- ✚ Indian Navy on Thursday launched Operation Sankalp in the Gulf of Oman to re-assure Indian Flagged Vessels operating/ transiting through Persian Gulf and Gulf of Oman following the maritime security incidents in the region.
- ✚ INS Chennai & INS Sunayna have been deployed in the Gulf of Oman and Persian Gulf to undertake Maritime Security operations.

### Highlights:

- ✚ Amid rising tensions between the US and Iran as well as recent incidents related to maritime security, the Navy has deployed its warships in the Gulf of Oman and the Persian Gulf to reassure the Indian vessels operating and transiting in the region.
- ✚ In addition, aerial surveillance by Indian Navy aircraft was also being undertaken in the area.
- ✚ The Information Fusion Centre - Indian Ocean Region, which was inaugurated by the Navy in December, 2018 at Gurugram, was also keeping a close watch on the movement of ships in the Gulf region. The Indian Navy remains committed to ensuring the safety of Indian maritime trade and merchant vessels operating in the region and contributing towards maintaining a stable and peaceful Indian Ocean Region," the Navy said.
- ✚ It is to be noted that nearly 75% of the world's maritime trade and 50% of global oil trade is conducted through the Indian ocean region.

## 4.5 2019 YEARBOOK OF THE STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI)

### Why in News?

- A report by a think-tank has found that the worldwide total of nuclear warheads has decreased since 2018 but countries are modernizing their Nuclear Arsenals.

### Worldwide nuclear arsenal:

- The 2019 Yearbook of the Stockholm International Peace Research Institute (SIPRI) is part-funded by the Swedish government.
- It said that nine nuclear-armed countries (including India) had a total of some 13,865 nuclear weapons at the start of 2019, which is a decrease of 600 nuclear weapons from 14,465 at the start of 2018. Figures for North Korea were not added to the total on account of uncertainty.
- The report separately counts “deployed warheads” (warheads placed on missiles or located on bases with operational forces) and “other warheads” (stored or reserve warheads and retired warheads awaiting dismantlement).

### Why decrease?

- It attributed the decrease mainly to Russia and the US.
- They together still account for over 90 per cent of all nuclear weapons.
- They are further reducing their strategic nuclear arms pursuant to the implementation of the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START).

### New START Policy:

- The New Strategic Arms Reduction Treaty (New START) pact limits the number of deployed nuclear warheads, missiles and bombers and is due to expire in 2021 unless renewed.
- The treaty limits the US and Russia to a maximum of 1,550 deployed nuclear warheads and 700 deployed missiles and bombers, well below Cold War caps.
- It was signed in 2010 by former US President Obama and then-Russian President Dmitry Medvedev.
- It is one of the key controls on superpower deployment of nuclear weapons.
- If it falls, it will be the second nuclear weapons treaty to collapse under the leadership of US President Donald Trump. In February, US withdrew from the 1987 Intermediate-Range Nuclear Forces Treaty (INF), accusing Moscow of violating the agreement.

## 4.6 STRATEGIC PARTNERSHIP MODEL

### Why in News?

- ✚ The Navy issued an 'Expression of Interest' for shortlisting potential strategic partners for the construction of six P-75 (I) submarines costing nearly Rs. 45,000 crores, the Defence Ministry. This is the second project being undertaken under the latest Strategic Partnership (SP) Model, with the first being the procurement of 111 naval utility helicopters (NUH).

### Strategic Partnership Model:

- ✚ The strategic partnership model seeks to identify a few Indian private companies as Strategic Partners who would initially tie up with a few shortlisted foreign Original Equipment Manufacturers (OEMs) to manufacture big-ticket military platforms.
- ✚ The following four segments have been identified for acquisition under Strategic Partnership (SP) route:
  1. Fighter Aircraft
  2. Helicopters
  3. Submarines
  4. Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs).
- ✚ Guidelines lay emphasis on incentivisation of transfer of niche technology and higher indigenous content.
- ✚ All procurements under it would be executed by specially constituted Empowered Project Committees.

### Significance:

- ✚ The SP model, if implemented well, is likely to have a number of benefits for both the private sector and the larger Indian defence industry.
- ✚ From the private sector's point of view, the biggest benefit would be the opportunity to participate in some big-ticket contracts
- ✚ Model would also go a long way in bridging the long-standing trust gap between the Indian private sector and MoD, with the latter perceived to be friendlier toward public sector entities.
- ✚ Strategic Partners, being private sector companies, are expected to exploit their dynamism, competitiveness, profit orientation, and exposure to the civilian sector for efficient utilisation of the technology, manpower and infrastructure developed in the process.

## 5. ECONOMY

### 5.1 BIMAL JALAN COMMITTEE

#### Why in News?

- A committee under former RBI governor Bimal Jalan considering guidelines for transfer of the central bank's surplus funds to the government delayed submitting its report after lack of consensus.

#### Bimal Jalan Committee:

- The committee was appointed in December 2018 to review the Economic Capital Framework (ECF) for the RBI after the Finance Ministry advised the central bank to transfer surplus funds to the government.
- The RBI has over Rs 9.6 lakh crore surplus capitals.
- The panel has been entrusted with the task of reviewing the best practices followed by central banks worldwide in making assessment and provisions for risks.

#### Issue over surplus transfers:

- The government and the RBI under its previous governor Urjit Patel had been at loggerheads over the Rs 9.6 lakh crore surplus capital with the central bank.
- The finance ministry was of the view that the buffer of 28 per cent of gross assets maintained by the central bank is well above the global norm of around 14 per cent.

#### What is Economic Capital?

- Banks and financial institutions are faced with long-term future uncertainties that they intend to account for.
- Economic capital (EC) is the amount of risk capital that a bank estimates in order to remain solvent at a given confidence level and time horizon.
- The concept of economic capital has gained significance especially after the global financial crisis in 2008. The crisis exposed many central banks in the world to multiple risks, which forced many of them US Federal Reserve, Bank of England and European Central Bank to pump in liquidity. They tempted to buy securities and expand their balance sheets to boost confidence in the financial system and to ensure that critical institutions did not collapse.

#### Balance sheet of Central Banks:

- The balance sheet of central banks is unlike that of the institutions that it regulates or supervises.
- They are not driven by the aim of boosting profits given their public policy or public interest role. Their aim is primarily ensuring monetary and financial stability and maintaining confidence in the external value of the currency.

- ✚ Central banks do not make money or the profits earned by issuing currency which is passed on to the owner of the central bank, the government.
- ✚ But they are typically conservative and the crisis prompted a review of the capital buffers that central banks and commercial banks needed.

### Potential Risks to Central Banks:

- ✚ Traditionally, central banks have been factoring in risks such as credit risk when there could be a potential default by an entity in which there has been an investment or exposure.
- ✚ There is also interest rate risk when interest rates either move up or slide, depending on the price of which securities or bonds held by a central bank or banks can be impacted.
- ✚ Besides, there is operational risk when there is a failure of internal processes.
- ✚ To measure these risks, both quantitative and qualitative methods are typically used.

### The RBI proposal:

- ✚ RBI holds a huge pile of foreign exchange reserves, and as the lender of last resort it described as contingent risks arising from its public policy role in fostering monetary and financial stability. In 2015, the RBI discussed this and put in place a draft Economic Capital Framework, or ECF.
- ✚ The rationale for such a capital framework was that there were increased risks to its balance sheet. RBI sought for an adequate capital buffer, critical not only to achieving its objectives, but also to ensuring the credibility of the central bank.

### Concerns of RBI:

- ✚ RBI pointed out that a weak balance sheet could force the central bank to rely more on excessive seigniorage (profit made by issuing currency) income, which would run in conflict to its price stability mandate.
- ✚ A compelling reason for RBI to build large capital buffers is to try and pre-empt a situation where they have to approach their governments for putting up their capital for recapitalization.
- ✚ That is seen by them as an erosion of their operational independence.
- ✚ The sovereign governments themselves are under fiscal strain.
- ✚ This strengthens the case for ex-ante capitalization (based on forecasts) than ex-post capitalization i.e. better to build a capital framework way ahead of a crisis.



## 5.2 U. K SINHA COMMITTEE

- ✚ The Reserve Bank of India (RBI) on January, 2019 set up an expert committee under former SEBI chairman U.K. Sinha to **Suggest Long-Term Solutions for the economic and Financial Sustainability of the MSME sector.**

### Key Recommendations of the Committee:

- ✚ ₹5,000 crore stressed asset fund for domestic micro, small and medium enterprises (MSMEs) in a relief to small businesses hurt by demonetization, the goods and services tax and an ongoing liquidity crunch.
- ✚ Such a fund could work in tandem with RBI-mandated restructuring schemes or bank-led NPA revival solutions for MSMEs.
- ✚ The onus of creating this fund would lie with the government
- ✚ The committee also suggested forming a government-sponsored Fund of Funds of ₹10,000 crore to support venture capital and private equity firms investing in MSMEs.
- ✚ The RBI should increase the limit for non-collateralized loans to 20 lakhs.
- ✚ Revision in loan limit sanctioned under the MUDRA by the Finance Ministry to 20 lakhs from 10 lakhs.
- ✚ Banks that wish to specialize in MSME lending, their sub-targets for farm loans under the priority sector lender could be waived off, and instead can be given a target for loans to the SME sector.
- ✚ The targets, committee said, could be of 50% of the net bank credit for universal banks and 80% for small finance banks.
- ✚ Commercial banks have been suggested that they should develop customised products to assess the financing requirements based on expected cash flows moving away from traditional forms of assessment. Banks need to build their ability to capture cash flows of MSME borrowers on a regular basis, for which tie-ups with industry majors / aggregators / online platforms will have to be done by the banks. In order to provide loan portability in a seamless manner to MSMEs, the committee recommended that the RBI should come out with measures on portability of MSME loans with a lock-in-period of one year.

## 5.3 GST COUNCIL

### Why in News?

- ✚ The 35th GST Council Meeting was held here today under the chairmanship of Union Finance & Corporate Affairs Minister Smt. Nirmala Sitharaman.

## GST Council:

- ✚ Goods & Services Tax Council is a constitutional body for making recommendations to the Union and State Government on issues related to Goods and Service Tax.
- ✚ The GST Council is chaired by the Union Finance Minister and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.

## Mandate of GST Council:

- ✚ The Goods and Services Tax Council shall make recommendations to the Union and the States on— the taxes, cesses and surcharges levied by the Union, the States and the local bodies which may be subsumed in the goods and services tax;
- ✚ the goods and services that may be subjected to, or exempted from the goods and services tax;
- ✚ model Goods and Services Tax Laws, principles of levy, apportionment of Goods and Services Tax levied on supplies in the course of inter-State trade or commerce under article 269A and the principles that govern the place of supply;
- ✚ The threshold limit of turnover below which goods and services may be exempted from goods and services tax; The rates including floor rates with bands of goods and services tax; Any Special rate or rates for a specified period, to raise additional resources during any natural calamity or disaster; **Special provision with respect to the States of Arunachal Pradesh, Assam, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand;** and any other matter relating to the goods and services tax, as the Council may decide.

## Exceptions:

- ✚ The Goods and Services Tax Council shall recommend the date on which the goods and services tax be levied on petroleum crude, high speed diesel, motor spirit (commonly known as petrol), natural gas and aviation turbine fuel.
- ✚ Other relevant points:
- ✚ Every decision of the Goods and Services Tax Council shall be taken at a meeting, by a majority of not less than three-fourths of the weighted votes of the members present and voting, in accordance with the following principles, namely: —
- ✚ the vote of the Central Government shall have a weightage of one third of the total votes cast, and the votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast, in that meeting.

## Details of the decision:

- ✚ The Council took a decision regarding location of the State and the Area Benches for the Goods and Services Tax Appellate Tribunal (GSTAT) for various States and Union Territories with legislature. It has been decided to have a common State Bench for the States of Sikkim, Nagaland, Manipur and Arunachal Pradesh.
- ✚ The tenure of National Anti-Profiteering Authority has been extended by 2 years.
- ✚ The Council also decided to introduce electronic invoicing system in a phase-wise manner for B2B transactions. E-invoicing is a rapidly expanding technology which would help taxpayers in backward integration and automation of tax relevant processes. It would also help tax authorities in combating the menace of tax evasion. The Phase 1 is proposed to be voluntary and it shall be rolled out from January 2020.

## 5.4 AGRICULTURAL & PROCESSED FOOD PRODUCTS EXPORT DEVELOPMENT AUTHORITY (APEDA)

### Why in News?

- ✚ Agricultural & Processed Food Products Export Development Authority (APEDA) in association with North Eastern Regional Agricultural Marketing Corporation (NERAMAC) organised the second Conference cum International Buyers-Sellers Meet in Imphal, Manipur.

### APEDA:

- ✚ APEDA, under the Ministry of Commerce and Industries, promotes export of agricultural and processed food products from India.
- ✚ To promote export of agricultural products from NER, APEDA has been organising various buyers- sellers meets to facilitate market linkages of the exporters with international buyers.
- ✚ The First International Buyers – Sellers meet for NER was organized by APEDA in Guwahati in March this year. APEDA is conducting regular promotional activities in the area of agriculture exports. It provides support to exporters to set up infrastructure like pack houses and cold storages. APEDA also helps exporters to exhibit their products in several national and international expos and exhibitions. The Imphal event of international buyers – sellers meet is part of the initiative of APEDA to bring the North-Eastern states of India on the export map of the country.

## 5.5 DATA LOCALISATION

### Context:

- ✚ RBI last year mandated companies to store their payments data "only in India" so that the regulator could have "unfettered supervisory access".
- ✚ The RBI will examine concerns around its strict data localisation rules that require storing of customer data exclusively in India without creating mirror sites overseas.

### What is Data Localisation: / Significance of Data Localisation:

- ✚ Data localisation laws refer to regulations that dictate how data on a nation's citizens is collected, processed and stored inside the country.
- ✚ Data localisation is critical for law enforcement.
- ✚ Access to data by Indian law agencies, in case of a breach or threat, cannot be dependent on the whims and fancies, nor on lengthy legal processes of another nation that hosts data generated in India.

### What India can do:

- ✚ It may not be wise for India to have the liberal rules as developed nation.

### Legislation backup:

- ✚ Only Mandatory rule on data localisation in India is by the Reserve Bank of India for payment systems. Justice Sri Krishna Committee report - to identify key data protection issues in India and recommend methods of addressing them".

## 5.6 KIMBERLEY PROCESS

### Why in News?

- ✚ Intersessional meeting of the Kimberley Process (KP) is being hosted by India in Mumbai.

### Highlights:

- ✚ India is currently the Chair of Kimberley Process Certification Scheme (KPCS) since 1st January 2018. It was handed Chairmanship by the European Union during KPCS Plenary 2018, which was held in Brussels, Belgium.
- ✚ India is founding member of KPCS.

### Kimberley Process:

- ✚ The Kimberley Process is an international certification scheme that regulates trade in rough diamonds. It aims to prevent the flow of conflict diamonds, while helping to protect legitimate trade in rough diamonds.
- ✚ The Kimberley Process Certification Scheme (KPCS) outlines the rules that govern the trade in rough diamonds.

- ✚ The KP is not, strictly speaking, an international organisation: it has no permanent offices or permanent staff. It relies on the contributions – under the principle of ‘burden-sharing’ – of participants, supported by industry and civil society observers.
- ✚ Neither can the KP be considered as an international agreement from a legal perspective, as it is implemented through the national legislations of its participants.

### Kimberley Process Certification Scheme:

- ✚ The Kimberley Process Certification Scheme (KPCS) imposes extensive requirements on its members to enable them to certify shipments of rough diamonds as ‘conflict-free’ and prevent conflict diamonds from entering the legitimate trade.
- ✚ Under the terms of the KPCS, participating states must put in place national legislation and institutions; export, import and internal controls; and also commit to transparency and the exchange of statistical data. Participants can only legally trade with other participants who have also met the minimum requirements of the scheme, and international shipments of rough diamonds must be accompanied by a KP certificate guaranteeing that they are conflict-free.

## 5.7 NEW NATIONAL RUBBER POLICY

- ✚ **Goal:** National Rubber Policy (NRP) envisages a well-developed value-chain of environmentally sustainable and globally competitive rubber industry, comprising natural and other forms of rubber and products, capable of supplying materials and products of international standards to domestic and world markets, with focus on welfare of the entire stakeholder community and national economic progress.

### Objectives:

1. To promote overall sustainability of the Rubber Industry with respect to economic, social and environmental dimensions.
2. To provide required focus towards development of the entire Rubber Industry value chain from upstream production to downstream manufacturing activities.
3. To strategize towards increase in area under Natural Rubber by new planting without causing any adverse impact on forests/natural ecosystems and food security.
4. To facilitate increase in average national rubber productivity through appropriate agro management practices including systematic replanting and ensuring better income for the growers. To strategize towards meeting of raw material requirement of domestic industry through domestic production as far as possible. To promote activities for ensuring quality of processed forms of NR at par with international standards.
5. To promote the development of rubber product manufacturing sector and facilitate export of quality rubber products.

## 5.8 PERIODIC LABOUR FORCE SURVEY (PLFS)

### Why in News?

- ✚ The govt has finally released Annual Report of the Periodic Labour Force Survey (PLFS) 2017-18 and the Quarterly Bulletin PLFS.

### Periodic Labour Force Survey (PLFS):

- ✚ The PLFS was launched from 1st April 2017.
- ✚ Primary aim of the PLFS is to generate reasonably accurate indicators of labour market at a short span for every quarter for which speed of quality data collection and processing are important. PLFS was launched with the objective of measuring employment every three months in urban areas and once a year in both rural and urban areas.
- ✚ The quarterly survey only captures data classed as current weekly status (CWS), while the annual survey measures both the usual status and CWS.
- ✚ The NSSO was historically conducting Employment and Unemployment Surveys as part of its National Sample Surveys.

### Who are the Unemployed?

- ✚ Labour force means people working or looking for jobs in the age group of 15-29 years.
- ✚ CWS Method: A person who is unable to get work for even an hour in the last seven days despite seeking employment is considered unemployed.
- ✚ Usual Status Method: Under this, the employment activity of a person is determined on the basis of a reference period of 365 days preceding the date of the survey.

### Trends:

- ✚ Labour force participation has been declining and touched 36.9% in 2017-18 as more among them, especially females, enrolled for higher studies.
- ✚ The youth accounted for 28.2% of urban males and 27.8% of urban females.
- ✚ During 2017-18, among people aged 15-29 years, the share of the educated was 65.8% among urban males. It was 65.4% among urban females. A higher percentage of males compared to females had received either formal or non-formal vocational training.

### Reality of jobless growth:

- ✚ The rising unemployment rate despite falling labour force participation for the youth is more worrying. This is likely to raise questions about whether India is suffering from jobless growth.
- ✚ According to Census 2011, India has 333 million youth—a number that is likely to touch 367 million in 2021 and 370 million by 2031. With this huge rise in youth unemployment, it is hard to reconcile this information with the EPFO data that people keep talking about, because a majority of the new entrants to EPFO would be the younger people.

## 5.9 FISCAL PERFORMANCE INDEX

### Why in News?

- Confederation of Indian Industry (CII) has launched a Fiscal Performance Index (FPI) to assess state and central budgets.

### Fiscal Performance index:

- The Index incorporates qualitative assessments of revenue expenditure, capital expenditure, revenues, fiscal prudence and the level of public debt arrive at a more holistic picture of fiscal performance than the fiscal deficit to GDP ratio.
- As an example, the index will consider expenditure on infrastructure, education, healthcare and other social sectors beneficial for economic growth compared to other revenue expenditure.
- It will also consider tax revenues a more sustainable source of revenues for the government as compared to one-time income sources.
- The CII has used this index to analyse state and central budgets from 2004-05 to 2016-17.
- The study found that despite improvement a reduction in the fiscal deficit between FY13 and FY18, the overall performance of the budget has been remained steady with improvements only in FY16 and FY17. This is largely due to moderation in the revenue, capital expenditure and net tax revenues indices.
- The analysis also shows that the combine performance of all state budgets has improved despite worsening of fiscal deficit numbers because of improvements in revenue and capital expenditure indices. The study also points out that relatively high-income states including Gujarat, Haryana and Maharashtra which are presumed to have good fiscal health because of low fiscal deficit to GDP ratio do not perform well on the composite FPI because of poor expenditure and revenue quality compared to other states.
- Other states including, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Bihar have done well on the FPI because of their good performance in revenue and capital expenditure indices.

### Recommendations:

- The government should attempt to broaden the tax base
- Increase investments in education and healthcare as well as maintenance of assets and well as increase investments in infrastructure, affordable housing and encourage public sector undertakings to also increase capital expenditure by limiting dividends to the government.

## 5.10 CABINET APPROVES RATIFICATION OF OECD'S MULTILATERAL CONVENTION TO CHECK TAX EVASION

### Why in News?

- ✚ The Cabinet approved ratification of a multilateral convention to implement OECD's project on checking tax evasion.
- ✚ The Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (BEPS) was signed by the then Finance Minister Arun Jaitley in Paris on June 7, 2017.

### Base Erosion and Profit Shifting (BEPS):

- ✚ Firms make profits in one jurisdiction, and shift them across borders by exploiting gaps and mismatches in tax rules, to take advantage of lower tax rates and, thus, not paying taxes to in the country where the profit is made.
- ✚ BEPS refers to this corporate tax planning strategies to "shift" profits from higher-tax jurisdictions to lower-tax jurisdictions.
- ✚ The OECD has considered ways to revise tax treaties, tighten rules, and to share more government tax information under the BEPS project.

### About the convention:

- ✚ The Multilateral Convention is an outcome of the OECD/G20 Project to tackle BEPS which is resorted to by MNCs through tax planning strategies by exploiting gaps and mismatches in tax rules.
- ✚ It helps them artificially shift profits to low or no-tax locations, resulting in little or no overall corporate tax being paid. Post this convention, 90 countries have now implemented the automatic exchange of financial account and tax information. The Convention enables all signatories to meet treaty-related minimum standards that were agreed as part of the BEPS package.

### Impact:

- ✚ The Convention will modify India's treaties in order to curb revenue loss through treaty abuse and base erosion and profit shifting strategies. It will ensure that profits are taxed where substantive economic activities generating the profits are carried out and where value is created.



## 5.11 NATIONAL FREIGHT INDEX (NFI)

### Why in News?

- ✚ Gurgaon-based tech-enabled logistics start-up Rivigo has launched National Freight Index (NFI) that will provide live freight rates for different lanes and vehicles across the country to bring transparency in the Road-Freight Marketplace.

### National Freight Index (NFI):

- ✚ This first-of-its-kind barometer of the road freight market in India is based on a Rivigo rate exchange.
- ✚ NFI gives a live spot rate on over 7 million lane and vehicle type combinations in the country.
- ✚ NFI offers an aggregated picture of both live rates and historical trends of spot price movements in the road freight industry.
- ✚ The index is represented in two main forms:
  1. In terms of actual freight rates condensed to INR per ton-km and
  2. In terms of relative movement with respect to a base month.
  3. Both the index and the exchange are based on Rivigo's machine learning and economics powered pricing algorithms, which are continuously improving on accuracy.

### Significance of the Index:

- ✚ In the existing logistics market structure, there are high inefficiencies due to information asymmetry, which leads to a great loss of value.
- ✚ NFI will enable unrestricted access and sharing of freight rate information.
- ✚ This will bring transparency in the market and propel the logistics sector towards efficiencies and growth.

## 6. ENVIRONMENT

### 6.1 HEAT WAVE

#### Why in News?

- ✚ Severe heat wave conditions will continue in many parts over the next couple of days, especially in Rajasthan and several parts of north and central India.

#### What is Heat Wave?

- ✚ A Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.
- ✚ Heat Waves typically occur between March and June, and in some rare cases even extend till July. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

#### The Indian Meteorological Department (IMD) criteria for Heat Waves:

- ✚ Heat Wave need not be considered till maximum temperature of a station reaches atleast 40°C for Plains and atleast 30°C for Hilly regions
- ✚ When normal maximum temperature of a station is less than or equal to 40°C: - Heat Wave Departure from normal is 5°C to 6°C, Severe Heat Wave Departure from normal is 7°C or more When normal maximum temperature of a station is more than 40°C: - Heat Wave Departure from normal is 4°C to 5°C Severe Heat Wave Departure from normal is 6°C or more
- ✚ When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared. Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change.
- ✚ India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

#### Causes:

- ✚ A heat wave is caused by a high-pressure system that hovers over an area. It traps heat beneath it like an oven. High-pressure systems force air downward. Hot air on the ground cannot escape into higher levels. Without rising air, there are no rain or clouds. The sun just bakes the area until a new pressure system is strong enough to push the high-pressure system away.

#### Effects:

- ✚ Heat stress causes dehydration and loss of body salt. It can also lead to failure in people with heart conditions. When the core body temperature rises beyond 104 F, organs fail. The gut leaks toxins into the body, creating an inflammatory response called heat stroke.

## 6.2 UNCCD COP: 14

### Why in News?

- June 17 is celebrated as the World Day to Combat Desertification and Drought.

### World Day of Desertification:

- In 1994, the United Nations General Assembly declared 17 June the “World Day to Combat Desertification and Drought” to promote public awareness and the implementation of the UNCCD in the desertification affected countries. The purpose of this World Day is to promote public awareness of land degradation and to draw attention to the implementation of the United Nations Convention to Combat Desertification (UNCCD).
- This year the theme is Let’s Grow the Future Together It is celebrated on June 17 and it is the date on which the General Assembly adopted the Convention to Combat Desertification

### Desertification:

- Desertification is defined by the U.N. Convention to Combat Desertification as land degradation in arid, semiarid and dry sub humid areas resulting from various factors, including climatic variations and human activities. Land degradation is in turn defined as the reduction or loss of the biological or economic productivity of drylands.

### Causes:

- Desertification occurs when:
  - The Tree and plant cover that binds the soil is removed. It occurs when trees and bushes are stripped away for fuelwood and timber, or to clear land for cultivation.
  - Animals Eat away grasses and erode topsoil with their hooves.
  - Intensive Farming depletes the nutrients in the soil. Wind and water erosion aggravate the damage, carrying away topsoil and leaving behind a highly infertile mix of dust and sand. It is the combination of these factors that transforms degraded land into desert.

### Impact of Desertification:

- Desertification is a global issue, with serious implications worldwide for biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development.
- Drylands are already fragile. As they become degraded, the impact on people, livestock and environment can be devastating.
- Some 50 million people may be displaced within the next 10 years as a result of desertification. The issue of desertification is not new though — it played a significant role in human history, contributing to the collapse of several large empires, and the displacement of local populations. But today, the pace of arable land degradation is estimated at 30 to 35 times the historical rate

## Bonn Challenge:

- ✚ The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030.
- ✚ At the UNFCCC Conference of the Parties (COP) 2015 in Paris, India also joined the voluntary Bonn Challenge pledge to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, and additional 8 million hectares by 2030. India's pledge is one of the largest in Asia.

## United Nations Convention to Combat Desertification (UNCCD):

- ✚ Established in 1994, the United Nations Convention to Combat Desertification (UNCCD) is the only legally binding international agreement linking environment and development issues to the land agenda.
- ✚ The Convention's 195 parties work together to improve the living conditions for people in drylands, to maintain and restore land and soil productivity, and to mitigate the effects of drought.
- ✚ The UNCCD is particularly committed to a bottom-up approach, encouraging the participation of local people in combating desertification and land degradation.
- ✚ The Secretariat facilitates cooperation between developed and developing countries, particularly around knowledge and technology transfer for sustainable land management.
- ✚ India is hosting the Fourteenth session of UNCCD Conference of Parties (COP – 14). One of the primary functions of the COP is to review reports submitted by the Country Parties detailing how they are carrying out their commitments. India will take-over the COP presidency from China for two years until the next COP is hosted in 2021.

## Way Forward:

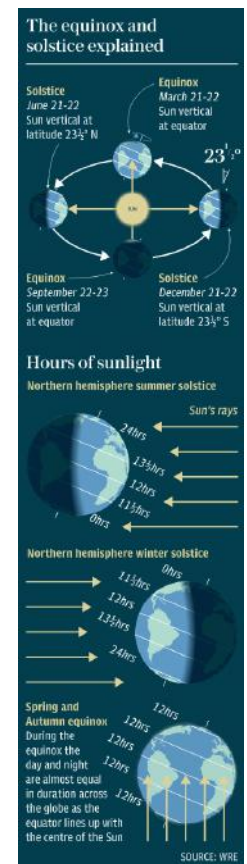
- ✚ Reforestation and tree regeneration
- ✚ Water management — **saving, reuse of treated water, rainwater harvesting, desalination, or direct use of seawater for salt-loving plants**
- ✚ Fixating the soil **through the use of sand fences, shelter belts, woodlots and windbreaks**
- ✚ Enrichment and hyper-fertilizing of soil **through planting**
- ✚ Farmer Managed Natural Regeneration (FMNR), **enabling native sprouting tree growth through selective pruning of shrub shoots. The residue from pruned trees can be used to provide mulching for fields thus increasing soil water retention and reducing evaporation.**

## 6.3 SUMMER SOLSTICE

- Summer Solstice 21 June is longest Day in Northern hemisphere of globe.
- In the northern hemisphere, summer solstice, or longest day of the year, takes place between June 20 and 22 each year.

### What Exactly Happens:

- Summer Solstice
- There are two solstices each year - one in the winter and one in the summer.
- The summer solstice occurs when the tilt of Earth's axis is most inclined towards the sun and is directly above the Tropic of Cancer.
- It might seem like a day to celebrate, but it actually signals the moment the sun's path stops moving northward in the sky, and the start of days becoming steadily shorter as the slow march towards winter begins.
- Winter Solstice- At the **winter solstice**, the Earth's axis is tilted furthest away from the sun directly over the Tropic of Capricorn bringing only a few hours of daylight. In the southern hemisphere the dates of the two solstices are reversed. The winter solstice occurs on the same day in June and the summer solstice the same day in December.
- The term '**solstice**' derives from the Latin word 'solstitium', meaning 'sun standing still'. Some prefer the more teutonic term 'sunturn' to describe the event.



## 6.4 FLOOD HAZARD ATLAS

### Why in news?

- Odisha has come out with a unique flood hazard atlas on the basis of historic flood inundation captured through satellite imagery over the period from 2001 to 2018, which is expected to help the State manage floods more efficiently.

### Flood Hazard Atlas:

- The National Remote Sensing Centre (NRSC) of the Indian Space Research Organisation (ISRO), Hyderabad had taken the study on flood hazard zonation for Odisha.
- A large number of satellite images acquired over 18 years (2001-2018) were used.
- All satellite data sets were analysed and flood layers were extracted.
- All the flood layers corresponding to a year are combined as one inundation layer, so that this layer represents the maximum flooded area in one year.”

- ✚ All such combined flood layers for 18 years were integrated into flood hazard layer representing the observed flood-inundated areas with different frequencies.
- ✚ This layer was integrated with the digital database layers of Odisha. The atlas would serve as a useful resource of information for policy makers, planners and civil society groups.
- ✚ Eight out of 30 districts such as Bhadrak, Kendrapara, Jagatsinghapur, Balasore, Puri, Jajpur, Khordha and Cuttack districts are more flood-affected districts.
- ✚ As high as 77% of Bhadrak and 70% of the Kendrapara district have been categorised as flood hazard.

### Significance:

- ✚ It will help to systematically plan flood control measures.
- ✚ It will help to control developmental activities on floodplains.
- ✚ It will help to carry out relief and rescue operation.
- ✚ It will also help to plan relief shelters and health centres.

## 6.5 RESILIENT KERALA PROGRAM

### Why in News?

- ✚ The Government of India, the Government of Kerala and the World Bank signed here today a Loan Agreement of USD 250 million for the First Resilient Kerala Program to enhance the State's resilience against the impacts of natural disasters and climate change.

### Resilient Kerala Programme:

- ✚ The Resilient Kerala Program is part of the GoI's support to Kerala's 'Rebuild Kerala Development Programme' aimed at building a green and resilient Kerala.
- ✚ The Program, which represents the First 'State Partnership' of the World Bank in India, is the First of two Development Policy Operations aiming to mainstream disaster and climate resilience into critical infrastructure and services.
- ✚ The World Bank partnership will identify key areas of policy and institutional strengthening to maximize development impact.
- ✚ The Program will focus on strengthening the State's institutional and financial capacity to protect the assets and livelihoods of poor and vulnerable groups through an inclusive and participatory approach.
- ✚ The Program aims to support the State with:
- ✚ Improved river basin planning and water infrastructure operations management, water supply and sanitation services Resilient and sustainable agriculture, enhanced agriculture risk insurance.

- Improved resilience of the core road network unified and more up-to-date land records in high risk areas risk-based urban planning and strengthened expenditure planning by urban local bodies strengthened fiscal and public financial management capacity of the state

## Background:

- The 2018 floods and landslides in Kerala led to severe impact on property, infrastructure, and lives and livelihoods of people.
- One sixth of the State's population – about 5.4 million people – was affected while 1.4 million were displaced from their homes, especially the poor and vulnerable segments of the population.

## 6.6 DEAD ZONE IN GULF OF MEXICO

- Context:** Dead zone in Mexico has reportedly grown larger in recent times.

## About Dead Zones:

- Dead zones (Hypoxic zones) are areas of the ocean (occasionally in lakes and even rivers) where oxygen has fallen to such low levels that most marine life cannot survive.
- Dead zones are **Reversible** if their causes are reduced or eliminated.

## Causes:

- Rising sea temperatures-** For each degree of ocean warming, oxygen concentration goes down.
- It causes layers of ocean water to stratify so the more oxygen-rich surface waters are less able to mix with oxygen-poor waters from the deeper ocean.
- The higher temperatures are putting more stress on marine species, causing their metabolisms to speed up and their need for oxygen to increase.
- Eutrophication- Nutrient** pollution from sources such as sewage.

## Impacts of Dead Zones:

- Impact on Global Warming-** As Oxygen levels fall, the pace of climate change can accelerate, with low oxygen levels triggering the release of chemicals like nitrous oxide.
- This greenhouse gas is 300 times more powerful than carbon dioxide at trapping heat in the atmosphere.
- Impact on Corals-** Low oxygen levels can kill coral reefs.
- Impact on Human-** due to loss of valuable ocean produce

## 6.7 WORLD ENVIRONMENT DAY

### Context:

- ✚ World Environment Day is celebrated on the 5th of June every year.
- ✚ It is the United Nation's principal vehicle for encouraging awareness and action for the protection of our environment.
- ✚ It was first held in 1974.
- ✚ The theme for 2019 is "Beat Air Pollution".
- ✚ 2019 host nation is China.

## 6.8 STATE OF INDIA'S ENVIRONMENT- 2019

- ✚ The State of India's Environment 2019 in Figures is an exclusive data-driven analysis of major developmental and environmental sectors.

### Points to Remember:

- ✚ **State of air:** Air pollution is responsible for 12.5 per cent of all deaths in India.
- ✚ Its impact on children is equally worrying, 100,000 children below the age of five die due to bad air in the country.
- ✚ While India was one of the first countries to pledge the phasing out of non-electric vehicles, its national scheme to promote the sale of e-vehicles is yet to pick up.
- ✚ Against the target of 15-16 million e-vehicles by 2020, the country had 0.28 million vehicles till May 2019.
- ✚ **State of development** – Climate change poses the biggest economic threat in the world today and features prominently in the UN Sustainable Development Goals 2030.
- ✚ With just 10 years to go, India is yet to identify indicators to track its climate change preparedness.
- ✚ **State of water** – Both surface and groundwater in the country is under stress. 86 water bodies are critically polluted.
- ✚ The bulk of the polluted water bodies are in Karnataka, Telangana and Kerala.
- ✚ One of the reasons is the substantial increase (136 per cent) in the number of grossly polluting industries between 2011 and 2018.
- ✚ Groundwater is also reeling under overexploitation, which is running 94.5 per cent of all minor irrigation schemes in the country. There has been an unsustainable increase in the number of deep tube wells that has gone up by 80 per cent between 2006-07 and 2013-14.
- ✚ **State of land and agriculture** – While the input costs for major crops are rising, the average farmland size is shrinking.



- ✚ Even the share of the insured cropped area stands at a dismal 26 per cent.
- ✚ **State of Health** – There is a 35 per cent shortfall in the number of 24×7 public health centres, where 26 per cent of the positions for medical officers are lying vacant.
- ✚ In fact, Kerala does not have a single 24×7 public health centre.
- ✚ Another worrying trend is that the number of new doctors qualifying every year in the country has decreased by 60 per cent between 2013 and 2017.
- ✚ The country also shares the world’s largest absolute burden of at least 11 major neglected tropical diseases, which includes diseases like dengue.
- ✚ **State of cities** – By 2050, India is projected to add 416 million urban dwellers to the world’s urban population and will be home to about 58 per cent of the total global population.
- ✚ Keeping this in mind, India in 2015-16 announced its ambitious plan of creating 100 smart cities.
- ✚ Four years later, only 21 per cent of the allocated funds for the smart cities have been spent.
- ✚ In the meanwhile, most urban cities have a sizeable population living in slums, which are unfit for habitation.
- ✚ India has 2,613 towns with slums. Of them, 57 per cent are in Tamil Nadu, Madhya Pradesh, Uttar Pradesh, Karnataka and Maharashtra.
- ✚ **State of waste** – The burden of solid waste is becoming unmanageable. In fact, 79 major protests against unsanitary landfills and dump yards have been recorded in 22 states in the past three years.
- ✚ Maharashtra, which registered 16 major protests, leaves 43 per cent of its waste unprocessed. While India claims to process 96 per cent of its biomedical waste, eight states and UTs have defaulting hospitals.
- ✚ The country has also recorded a 56 per cent increase in the number of hazardous-waste generating industries between 2009 and 2016-17.
- ✚ At the same time, most of these industries are not properly maintaining their waste inventory, as mandated by the law.
- ✚ **State of energy** – India’s natural gas and hydro-based power plants are in shambles.
- ✚ Gas-based plants are running at 24 per cent of their capacity due to the acute shortage of domestic natural gas. Hydropower projects, on the other hand, are running at just 19 per cent of their capacity and their share in total installed capacity has consistently declined since 1962.
- ✚ The country’s progress in renewable energy in 2018-19 has also been dismal.
- ✚ In wind, the country met only 6.3 per cent of the target this year. In solar, it met 5.86 per cent.
- ✚ **State of climate** – There has been a 22 per cent increase in India’s greenhouse gas (GHG) emissions between 2010 and 2014.

- ✚ This has been fuelled by the energy sector, which is responsible for 73 per cent of the total GHG emissions.
- ✚ Besides, India phased out ozone depleting substances such as chlorofluorocarbon by 2011, it shifted to substances such as hydrochlorofluorocarbon, which have high global warming potential.
- ✚ India continues to bear the brunt of extreme weather events.
- ✚ In 2018, 11 states recorded major extreme weather events that claimed 1,425 lives.
- ✚ **State of forests** – India has recently shifted to a powerful forest fire monitoring and alert system, SNPP-VIIRS, which can capture forest fires with better accuracy and precision.
- ✚ In April 2019, the new technology recorded 69,523 forest fires, which was 9.5 times more than that recorded by the earlier technology.
- ✚ **State of wildlife** – 37 species were poached or seized in 2018. Of these, 13, including lion, marked an increase over the last year; 161 wild animals were also killed due to road and train accidents
- ✚ **State of employment** – India has witnessed a 1.9 times increase in the unemployment rate in the past two years.
- ✚ This has especially affected the youth and the educated.
- ✚ Unemployment rate among people with at least a graduate degree was 13.17 per cent in September-December 2018, up from 10.39 per cent in May-August 2017.

## 6.9 CYCLONE VAYU

### Why in News:

- ✚ Cyclone Vayu (It is still to develop into a cyclone and is only a deep depression as of now) is currently positioned around 250 km northwest of Aminidivi island in Lakshadweep and about 750 km southwest of Mumbai.

### Background: / Cyclone Vayu:

- ✚ Cyclone Vayu is slated to reach the Gujarat coast by either around midnight of June 12 or early morning of June 13.
- ✚ It is likely to dissipate very fast after that because the land and atmosphere in the area was devoid of any moisture that can sustain it any further.
- ✚ The northward progression of monsoon can be expected two to three days after that
- ✚ Vayu is much weaker than Fani. At its strongest, it is likely to generate winds of speed 110-120 km per hour, according to current forecasts. In contrast, winds associated with Fani had speeds of about 220 km per hour.

- ✚ Vayu, even at its most powerful, therefore would only be categorised as a “severe cyclonic storm”, while Fani was an “extremely severe cyclonic storm” and almost satisfied the conditions for classification as a “super cyclone”.
- ✚ The lowest official classification used in the North Indian Ocean is a **Depression**, which has 3-minute sustained wind speeds of between **31–49 km/h**
- ✚ Deep Depression, which has winds between 50–61 km/h
- ✚ Cyclonic storm, wind speeds of between 62–88 km/h
- ✚ Severe Cyclonic Storms have storm force wind speeds of between 89–117 km/h
- ✚ Very Severe Cyclonic Storms have hurricane-force winds of 118–166 km/h
- ✚ Extremely Severe Cyclonic Storms have hurricane-force winds of 166–221 km/h
- ✚ The highest classification used in the North Indian Ocean is a Super Cyclonic Storm, which have hurricane-force winds of above 222 km/h.

### Impact of Cyclone Vayu on Monsoon:

- ✚ While Vayu is unlikely to result in widespread destruction, the cyclone is expected to interfere with normal progression, by sucking all the moisture from the monsoon winds towards itself.
- ✚ Cyclones are sustained by very strong low-pressure areas at their core. Winds in surrounding areas are forced to rush towards these low-pressure areas. Similar low-pressure areas, when they develop near or over land, are instrumental in pulling the monsoon winds over the country as well. But right now, the low-pressure area at the centre of the cyclone is far more powerful than any local system that can pull the monsoon winds moving northeast.

### Arabian Sea Cyclones:

- ✚ Though cyclones are common in the June, very few of them originate in the Arabian Sea as compared to Bay of Bengal. In the last 120 years for which records are available, just about 14% of all cyclonic storms, and 23% of severe cyclones, around India have occurred in the Arabian Sea. Arabian Sea cyclones are relatively weak compared to those emerging in the Bay of Bengal.
- ✚ Also, most of the cyclones emerging in the Arabian Sea are headed towards Gujarat Coastline. As Gujarat Coastline is not very densely populated, the damage potential of the cyclones on the western coast is comparatively low.

## 6.10 SWACHH BHARAT MISSION IMPACT ON GROUNDWATER

### Why in News?

- Swachhata has affected all aspects of the environment – be it groundwater, surface water, soil or air – as well as health and well-being of the communities in ODF regions as per the report published by UNICEF.

### Environmental Impact study by UNICEF:

- Under the “Environmental impact of the SBM on Water, Soil, and Food” by UNICEF, groundwater samples were collected and studied from ODF and non-ODF villages of Odisha, Bihar and West Bengal.
- The study found that, in terms of faecal contamination, non-ODF villages were, on average:
  - 11.25 times more likely to have their groundwater sources contaminated (12.7 times more from contaminants traceable to humans alone)
  - 1.13 times more likely to have their soil contaminated
  - 1.48 times more likely to have food contaminated and 2.68 times more likely to have household drinking water contaminated.
- The study findings indicated that these substantial reductions may potentially be attributed to the improvement in sanitation and hygiene practices.

### IEC footprint study by Gates Foundation:

- IES stands for Information, Education and Communication.
- The “Assessment of the reach and value of IEC activities under SBM (Grameen)” was conducted by Dalberg, supported by the Bill and Melinda Gates Foundation.
- It estimated the scale of IEC activities within the Mission and assessed associated monetary and in-kind costs, and outputs such as reach.

### The Study Found that:

- SBM mobilized a spend equivalent worth INR 22,000 to 26,000 crores in monetary and non-monetary IEC activities.
- Of this spend equivalent, cash expenditure on IEC activities spent by the Government, private sector, and the development community was estimated to be between INR 3,500 – 4,000 crores. An average person living in rural India was exposed to between 2,500 – 3,300 SBM related messages over the last five years.

## 6.11 SPECIES IN NEWS

### ‘AROGYAPACHA’ (TRICHOPUS ZEYLANICUS)

In a project undertaken by State Inter University Centre of Excellence in Bioinformatics at the Department of Computational Biology and Bioinformatics, **University of Kerala** scientists have decoded the genetic make-up of Arogyapacha (*Trichopus zeylanicus*)



- It is a highly potent medicinal plant **endemic to the Agasthya hills in Southern Western Ghats.**
- This ‘miracle plant’ is known for its traditional use by the Kani tribal community to combat fatigue. It also acts as an anti-oxidant, aphrodisiac, anti-microbial, anti-inflammatory, immunomodulatory, anti-tumour, anti-ulcer, anti-hyper lipidemic, hepatoprotective and anti-diabetic.

### IMPRESSIVE TORTOISE (MANOURIA IMPRESSA)

It is considered beautiful enough to be named ‘**Impressed**’ has been Discovered in **Arunachal Pradesh.**



- The **Male Impressed Tortoise** is **Smaller** than the **Female** which is 30 cm in length. This Manouria species is one-third the size of the Asian Forest Tortoise.
- There are **Only Two Species** of tortoises under the Manouria genus. India was known to be the home of **Only** the Asian Forest Tortoise (*Manouria Emys*) until the discovery of the Impressed Tortoise.
- The **Asian Forest Tortoise**, the largest in mainland Asia, is found only in the northeast, as are 20 of the other 28 species of chelonians. Chelonian is an order of **Reptile** that includes **Turtles, Terrapins and Tortoises.**

### DALBERGIA SISSOO

Commonly known as North Indian Rosewood/shisham Tree, is a fast-growing, hardy deciduous rosewood tree native to the Indian Subcontinent and Southern Iran. Sissoo is a large, crooked tree with long, leathery leaves and whitish or pink flowers.



- It is economically important for its value in forestry, agroforestry, and horticulture. Provides timber, fuelwood, fodder, has medicinal value, used extensively as an ornamental tree as well as for shading, erosion control, and soil fertility.

- It is listed in Appendix II of CITES. Recently India has proposed to remove rosewood (*Dalbergia sissoo*) from Appendix II (Not threatened) of CITES.
- Appendix II of CITES states that trade must be controlled to avoid utilisation incompatible with their survival. According to the India's proposal, Listing of *Dalbergia* genus may create unnecessary complications in the trade.

## BLACK SOFTSHELL TURTLE

- It is a Freshwater Turtle that is found in India and Bangladesh.
- It is omnivorous, with a diet ranging from aquatic plants to aquatic insects
- The black softshell turtle (*Nilssonina nigricans*) figures in the International Union for Conservation of Nature's (IUCN) Red List as "extinct in the wild" since 2002.
- Consumption of turtle meat and eggs, silt mining, encroachment of wetlands and change in flooding pattern have had a disastrous impact on the States turtle population.



## DU SCIENTISTS DISCOVER FROG IN ASSAM

### Why in News:

- A team of scientists from Delhi University and the Wildlife Institute of India, in collaboration with researchers from Indonesia and the US, have discovered a new species of 'paddy frog' from Northeast India, primarily Assam.



### More in News:

- The frog belongs to the microhylid genus *Micryletta*, a "group of narrow-mouthed frogs that is primarily and widely distributed in Southeast Asia, more commonly known as paddy frogs".
- The new species has been named 'aishani', derived from the Sanskrit word 'aishani' or aisani meaning Northeast.
- The new species is likely to be more widely distributed in Northeast India, particularly the Indo-Burma biodiversity hotspot region that lies south of River Brahmaputra.
- Micryletta aishani* is currently endemic to Northeast India but it could very well be present in neighbouring regions of Bangladesh and Myanmar Scientists said the new species strikingly differs from other narrow-mouthed paddy frogs by characteristics such as Reddish-brown colouration on back,
- Prominent dark streaks and ash-grey mottling on the lateral sides,
- Shape of the snout, and

- ✚ Absence of web on its feet.
- ✚ The newly discovered *Micryletta* frog from Northeast India was confirmed as a new species by detailed comparison of both DNA and morphology with all previously known members across South East and East Asia.
- ✚ DNA analyses suggested that other “undescribed species in this genus” could be in existence in regions such as Laos, Thailand, and Vietnam.
- ✚ The first known species of this genus was originally described from Sumatra in Indonesia. As of now, there are only four recognised species in this group, and *Micryletta aishani* becomes the fifth.

## NEW SPECIES IN EASTERN HIMALAYA- BALSAMS OR JEWELWEEDS

- ✚ Context-23 new species from the eastern Himalayas of a group of plants commonly known as Balsams or jewelweeds
- ✚ UPSC mainly asks question regarding new species of plant, animal found in Western Ghats, Himalayas, North east, Andaman and Nicobar.
- ✚ UPSC prelims questions- Himalayan nettle (*Girardinia diversifolia*)-2019
- ✚ There are about 230 species of Balsams found in India and majority of them are found in the eastern Himalayas and Western Ghats.
- ✚ **These species need proper conservation initiatives as they are highly vulnerable, especially to climate change.**
- ✚ They are mostly found in stream Margins, Moist Roadsides, Near Waterfalls and Wet Forests.



## AUSTRALIA'S NEW SEX-CHANGING TOMATO: SOLANUM PLASTISEXUM

- ✚ Also known as the **Dungowan bush tomato**, *Solanum plastisexum* is a distant relative of the cultivated **eggplant**.
- ✚ The new species provides a compelling example of the fact that sexuality among Earth's living creatures is far more diverse, and interesting, than what is expected.

### Background:

- ✚ Living organisms, including plants and animals, often exhibit diverse sexual forms, such as an all-female lizard species whose eggs have all the genetic material needed to reproduce, and clown fish, which are born male and can, transform into females later in life. Plants are especially fluid and might have flowers with only male or only female parts, or both, or reproductive systems that function differently from the way they appear.

## NEW SPECIES OF WASP KUDAK LUMIA RANGNEKAR IDENTIFIED IN GOA

- A new species of wasp from the genus Kudakrumia identified by scientists in Goa. It has been named as Kudakrumia Rangnekari after Goa-based researcher Parag Rangnekar.
- Wasp is a member of a group of insects in the order Hymenoptera, suborder Apocrita. It is neither an ant nor a bee.
- They are found in Goa and Kerala in India and Sri Lanka, outside India.
- The holotype was collected from the forests of Northern Western Ghats from Kotigao Wildlife sanctuary. The paratype(specimen) was collected from Ranipuram hill of Kerala, Southern Western Ghats.. Parag Rangnekar is the founder-president of the Goa Bird Conservation Network. Parag Rangnekar is written a book named “Butterflies of Goa” which is first field guide with photographs of the species found in the region.

## ASIATIC GOLDEN CAT

### Why in News:

- Scientists have found that the golden cat in six types of colours cinnamon, golden, gray, melanistic, ocelot and tightly rosetted Golden is no longer the only colour the elusive Asiatic golden cat can be associated with.
- Its coat comes in five other shades in Arunachal Pradesh.

### Details:

- The Asiatic golden cat (*Catopuma temminckii*) is listed as near threatened on the International Union for Conservation of Nature’s Red List of threatened species.



- It is found across eastern Nepal through north-eastern India to Indonesia.
- Bhutan and China were known to have two morphs of the golden cat — one the colour of cinnamon and the other with markings similar to the ocelot, a small wild cat found in the Americas.



- Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered six colour morphs of the golden cat in Dibang Valley of Arunachal Pradesh.
- The findings have contributed to an evolutionary puzzle because no other place on earth has so many colours of wild cats of the same species.
- It is believed that the wide variation displayed in the cat's coats provides them with several ecological benefits such as occupying different habitats at different elevations from wet tropical lowland forests to alpine scrubs and providing camouflage while preying on pheasants and rabbits.
- Colour morphs are thought to arise from random genetic mutations and take hold in the population through natural selection

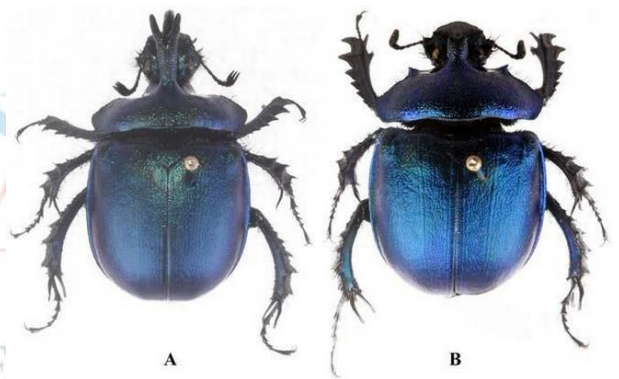
## TAWANG YIELDS A NEW SPECIES OF DUNG BEETLE

### Why in News:

- A new species of dung beetle has been discovered in Tawang district of Arunachal Pradesh.

### Details:

- The species, *Enoplotrupes tawangensis*, is shining dark blue in colour and, measuring up to 27 mm, is relatively bigger than most of the dung beetles.
- Dung beetles belong to the super family scarabaeoidea, having clubbed antennae and pro-tibiae (pro-legs) modified for burrowing dung inside the soil.
- This group of insects are considered beneficial to the environment as they help in nutrient cycling of the soil. Often referred to as little recyclers, these scavenger beetles require mammalian dung to survive. "Insects comprise almost 65% of all animal species on the planet. From India, approximately 65,000 species of insects are known, of them, more than 22,000 species are beetles.
- Dung beetles are the one of the fascinating group of insects because of their ability to bury dung deep in the soil and are indicators of the ecological health of an ecosystem,"
- Other than the relatively large size and distinct blue colour, another important distinguishing characteristic of this species is the strong sexual dimorphism, with the fronto-clypeal horn shorter in females than males.



## 7. SCIENCE & TECHNOLOGY

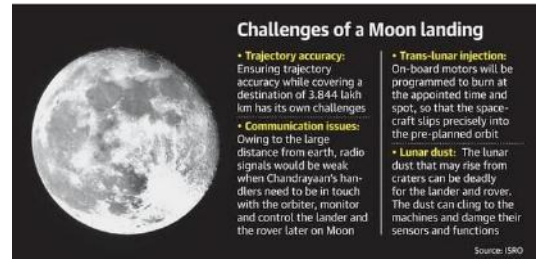
### 7.1 CHANDRAYAAN-2 MISSION

#### Why in News:

- Chandrayaan-2, the country's first moon lander and rover mission, is a month away.

#### Background:

- Chandrayaan-2 lander is named Vikram (meaning valour, after the father of the Indian space programme, Vikram Sarabhai). It will release a small robotic rover, named Pragyan (wisdom), to move around, feel and understand the lunar surface.



#### Chandrayaan II:

- Chandrayaan II is India's second lunar mission after Chandrayaan I. The mission includes a lunar orbiter, rover and a lander. The mission is developed by ISRO, India.
- Initially, the lander was supposed to have been developed by Russia. But, when Russia cited its inability to provide the lander by 2015, India decided to go solo. Now, the mission is entirely Indian.
- It is slated to launch by January 2019. The launch vehicle would be a GSLV (Geosynchronous Satellite Launch Vehicle Mark III).
- The mission is attempting to soft-land on the moon's surface at a latitude of about 70° south, that would be on a high plain in between 2 craters. If successful, this would be the first mission to land near the lunar south pole.
- Details of Chandrayaan II mission:
  - Launch vehicle: GSLV Mk III
  - Lift off mass (approx.): 3,890 kg
  - Launch from: Satish Dhawan Space Centre, Sriharikota, Andhra Pradesh
  - Orbiter: It will orbit the moon at a distance of 100 km from the lunar surface. Payloads on the orbiter are: Large Area Soft X-ray Spectrometer, L and S band Synthetic Aperture Radar, Imaging IR Spectrometer, Neutral Mass Spectrometer and Terrain Mapping Camera-2. The structure of the orbiter was manufactured by Hindustan Aeronautics Limited (HAL).
  - Lander: The lander has been named Vikram after scientist Vikram Sarabhai. The lander will detach from the orbiter, descend to a lunar orbit, before attempting to land on the surface. It will make a soft-landing and deploy the rover. It will also perform some scientific activities for about 15 days. Payloads on the lander are: seismometer, thermal probe, Langmuir probe and radio occultation.

- Rover: The 27 kg rover will operate on solar power. It will move on six wheels and conduct chemical analyses on-site. It will then transmit the data to the orbiter which will send this data back to the earth station. The rover payloads include Laser induced Breakdown Spectroscopy (LIBS) and Alpha Particle Induced X-ray Spectroscopy (APIXS).

## 7.2 LUNAR EVACUATION SYSTEM ASSEMBLY (LESA)

### Why in News?

- Among preparations for NASA's 2024 Moon mission, one has been to test a device called Lunar Evacuation System Assembly, or LESA.
- Astronauts are testing LESA under the sea. With its rocky, sandy terrain and buoyant salt water, the bottom of the ocean floor has much in common with the lunar surface.

### LESA:

- Developed by the European Space Agency (ESA), LESA is a pyramid-like structure whose purpose is to rescue an astronaut should he or she suffer an injury on the lunar surface.
- Astronauts will be wearing heavy extravehicular activity (EVA) suits.
- There is no way an astronaut could carry their fallen crewmate over their shoulder while wearing an EVA suit. LESA can be operated by a single astronaut to rescue a fallen colleague.
- It enables an astronaut to lift their crewmate onto a mobile stretcher in less than 10 minutes, before carrying them to the safety of a nearby pressurized lander.

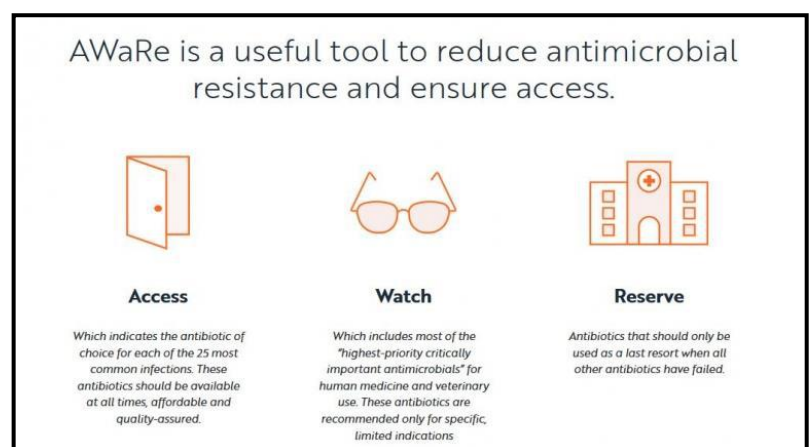
## 7.3 AWaRe: A WHO TOOL FOR SAFER USE OF ANTIBIOTICS

### Context:

- This is the World Health Organisation's (WHO) prescription to combat the growing menace of antibiotic abuse and burgeoning resistance worldwide.

### About: / AWaRe Tool:

- WHO has suggested the adoption of 'Access, Watch and Reserve',
- An approach that specifies which antibiotics to use for the most common and serious infections,
- which ones ought to be available at all times in the healthcare system, and those that must be used sparingly, or reserved and used only as a last resort.



## Antimicrobial Resistance:

- ✚ Antimicrobial resistance (AMR or AR) is the ability of a microbe to resist the effects of medication that once could successfully treat the microbe
- ✚ The term antibiotic resistance is a subset of AMR, as it applies only to bacteria becoming resistant to antibiotics.
- ✚ Antibiotics are medicines used to prevent and treat bacterial infections. Antibiotic resistance occurs when bacteria change in response to the use of these medicines.
- ✚ Bacteria, not humans or animals, become antibiotic-resistant.
- ✚ These bacteria may infect humans and animals, and the infections they cause are harder to treat than those caused by non-resistant bacteria.
- ✚ Antibiotic resistance occurs naturally, but misuse of antibiotics in humans and animals is accelerating the process.
- ✚ A growing number of infections – such as pneumonia, tuberculosis, gonorrhoea, and salmonellosis – are becoming harder to treat as the antibiotics used to treat them become less effective.
- ✚ It leads to higher medical costs, prolonged hospital stays, and increased mortality.

## Prevention and Control:

- ✚ Antibiotic resistance is accelerated by the **Misuse and overuse of Antibiotics**, as well as poor infection prevention and control.
- ✚ In India, the Health Ministry has made it mandatory to display a 5mm -thick red vertical band **on the packaging of prescription - only drugs** to sensitize people to be cautious while buying these medicines that are widely sold without prescriptions.



## Way Ahead:

- ✚ There is need to sensitize health professional including Doctors, Pharmacist regarding menace that antibiotic can cause.
- ✚ The allied medicinal practitioner such BAMS, BHMS and other doctors who are spread at grass root level prescribes antibiotics rampantly, should be regulated.
- ✚ BAMS, BHMS and other allied medicinal practitioner must not be allowed to prescribe Higher antibiotics.

## 7.4 NEW PAPER-BASED TEST KIT FOR MALARIA DETECTION

### Why in News?

- ✚ With over one million reported cases in 2017, malaria still continues to be a burden for India and most countries of Southeast Asia.
- ✚ Now, a group of researchers from IIT Guwahati has developed a simple detection method that uses an instrument when in the lab or a piece of chromatographic paper when in the field.

### Paper Test Kit for Malaria:

- ✚ The kit can be used to detect Plasmodium parasite, which causes malaria and also specifically detect Plasmodium falciparum, a notorious species.
- ✚ Using an ordinary syringe fitted with a small magnet, magnetic beads and few chemicals inside, the researchers were able to specifically capture the antigen released by the parasites in the blood of malaria patients. As the blood has many interfering agents, the kit used magnetic bead-tethered aptamers (two small DNA molecules), which capture only the specific antigens and separate these from the blood serum to perform the reaction.
- ✚ This kit also has high stability in hot and humid conditions.

### Working Mechanism:

- ✚ When the captured antigens interact with specific substrates inside the syringe, the blue dye turns pink. The dye is then adsorbed over a modified chromatographic paper.
- ✚ The formation of pink colour on the paper is a direct indication of the presence of parasites in the blood serum. The intensity of the colour increases when the concentration of antigen is high. The intensity of the colour change is measured using a spectrophotometer. This gives a quantitative measurement and can detect very low level of the antigen in blood.

### Malaria:

- ✚ Malaria is a potentially life-threatening parasitic disease caused by the parasites Plasmodium vivax (P.vivax), P.falciparum, P.malariae, and P.ovale transmitted by the female Anopheles mosquito. World's first Malaria Vaccine RTS,S (Mosquirix) was recently unveiled.

### Incidence of Malaria in India:

- ✚ India ranks very high in the list of countries with a serious malaria burden.
- ✚ In 2018, 3,99,134 cases of malaria and 85 deaths due to the disease were reported in the country, according to data from the National Vector Borne Disease Control Programme.
- ✚ Six states — Odisha (40%), Chhattisgarh (20%), Jharkhand (20%), Meghalaya, Arunachal Pradesh, and Mizoram (5-7%) — bear the brunt of malaria in India.
- ✚ These states, along with the tribal areas of Maharashtra and Madhya Pradesh, account for 90% of India's malaria burden.

## 7.5 NASA'S CURIOSITY ROVER

- ✚ It has recently detected the highest ever levels of methane on Mars.
- ✚ The finding came from the rover's **Sample Analysis at Mars (SAM)** tunable laser spectrometer.
- ✚ The finding is important because microbial life is an important source of methane on Earth, but methane can also be created through interactions between rocks and water.



### About Curiosity Rover:

- ✚ **Curiosity** is a car-sized rover designed to explore the crater Gale on **Mars** as part of **NASA's Mars Science Laboratory Mission (MSL)**. It was launched in November 2011. The rover will analyse samples scooped from the soil and drilled from rocks in order to detect chemical building blocks of life (e.g., forms of carbon) on Mars and will assess what the Martian environment was like in the past.
- ✚ The **Main Scientific Goals** of the MSL mission are to help determine whether Mars could ever have supported life, as well as determining the role of water, and to study the climate and geology of Mars.

## 7.6 MONKEY POX

### Why in News?

- ✚ Monkeypox is a rare viral zoonosis (a virus transmitted to humans from animals) with symptoms similar to those seen in the past in smallpox patients, although it is clinically less severe.

### Monkeypox:

- ✚ Monkeypox is a member of the Orthopoxvirus genus in the family Poxviridae.
- ✚ With the eradication of smallpox in 1980 and subsequent cessation of smallpox vaccination, it has emerged as the most important orthopoxvirus
- ✚ The monkeypox virus is mostly transmitted to people from various wild animals such as rodents and primates, but has limited secondary spread through human-to-human transmission. The virus is transmitted to those in close contact through secretions of the respiratory tract and skin lesion. Typically, case fatality in monkeypox outbreaks has been between 1% and 10%, with most deaths occurring in younger age groups.
- ✚ There is no specific treatment or vaccine available although prior smallpox vaccination was highly effective in preventing monkeypox as well.

## 7.7 GENETICALLY ALTERED CHICKEN

### Why in News?

- ✚ Scientists in Britain have used gene-editing techniques to stop bird flu spreading in chicken cells grown in a lab – a key step towards making genetically-altered chickens that could halt a human flu pandemic.

### Findings:

- ✚ Researchers prevented the virus from taking hold by deleting a section of chicken DNA inside lab-grown cells.
- ✚ Scientists targeted a specific molecule inside chicken cells called ANP32A.
- ✚ Researchers found that during an infection, flu viruses hijack this molecule to help replicate themselves. Researchers used gene-editing techniques to remove the section of DNA responsible for producing ANP32A. They found the virus was no longer able to grow inside cells with the genetic change.
- ✚ The next step will be to try to produce chickens with the genetic change. No birds have been produced yet

### Bird flu:

- ✚ Bird flu viruses infect birds, including chickens, other poultry, and wild birds such as ducks. Usually bird flu viruses only infect other birds. It is rare for people to get infected with bird flu viruses, but it can happen. Two types, H5N1 and H7N9, have infected some people during outbreaks in Asia, Africa, the Pacific, the Middle East, and parts of Europe.
- ✚ Most of the people who get bird flu have had close contact with infected birds or with surfaces that have been contaminated by the birds' saliva, mucous, or droppings.
- ✚ It is also possible to get it by breathing in droplets or dust that contain the virus.
- ✚ Rarely, the virus has spread from one person to another. It may also be possible to catch bird flu by eating poultry or eggs that are not well cooked.

## 7.8 SRI LANKA'S 1<sup>st</sup> SATELLITE 'RAAVANA-1' LAUNCHED

### Context:

- ✚ Sri Lanka's first satellite 'Raavana-1' was launched into space from NASA's Flight Facility on 18 April 2019.
- ✚ 'Raavana 1' weights around 1.05 kg and the lifespan of the satellite is around one and a half years.
- ✚ The launch marks Sri Lanka's entry into the global space age.
- ✚ Its mission is to capture images of Sri Lanka and its neighbouring countries.

## Background:

- ✚ The launch marks Sri Lanka's entry into the global space race.
- ✚ The satellite was designed and built at the Kyushu Institute of Technology in Japan by two Sri Lankan research engineers.
- ✚ Its camera mission is to take pictures of Sri Lanka and its neighbouring countries.
- ✚ Its Lora Demonstration Mission is to validate the module to be used to data download next satellites. The Attitude Determination and Control Mission of '**Ravaana 1**' will involve the team trying to reduce the angular velocity of the satellite using magnetic torquers.

## 7.9 CRISPR - CAS9 - GENE EDITING RULES

### Why in News?

- ✚ In a bid to make babies immune to infection by the human immunodeficiency virus (HIV), He Jiankui, a researcher from the Southern University of Science and Technology in Shenzhen, China, used a clinically untested gene editing tool (CRISPR-Cas9) to modify a particular gene. The announcement of the birth of gene-edited twin girls late last year set off an international furore.

### How does it work?

- ✚ Unusual but repeated DNA structures that scientists had been observing were given a name — Clustered regularly interspaced short palindromic repeats or CRISPR.
- ✚ In 2012, scientists discovered that CRISPR is a key part of the “immune system”. For instance, when a virus enters a bacterium, it fights back by cutting up the virus's DNA. This kills the virus but the bacterium store some of the DNA.
- ✚ The next time there is an invasion, the bacterium produce an enzyme called Cas9 which matches the stored fingerprints with that of the invader's. If it matches, Cas9 can snip the invading DNA.
- ✚ The CRISPR-Cas9 gene editing tool thus has two components — a short RNA sequence that can bind to a specific target of the DNA and the Cas9 enzyme which acts like a molecular scissor to cut the DNA.
- ✚ To edit a gene of interest, the short RNA sequence that perfectly matches with the DNA sequence that has to be edited is introduced.
- ✚ Once it binds to the DNA, the Cas9 enzyme cuts the DNA at the targeted location where the RNA sequence is bound.
- ✚ Once the DNA is cut, the natural DNA repair mechanism is utilised to add or remove genetic material or make changes to the DNA.



- ✚ Dr. He used the CRISPR–Cas9 gene editing technique in the twin girls to disable a gene called CCR5, which encodes a protein that allows HIV to enter and infect cells.

## Issues with gene tool?

- ✚ There is a general consensus in the scientific and ethics communities that the CRISPR–Cas9 gene-editing technique should not be used clinically in embryos
- ✚ There is also consensus that gene editing can be potentially used only to prevent serious genetic disorders that have no alternative treatment. While HIV cannot be cured, medicines can keep the virus under check.
- ✚ Importantly, human clinical trials have not been carried out anywhere in the world to test whether disabling the gene completely prevents HIV infection and what the side-effects of doing so would be. In the absence of any clinical trial data as well as consensus to use this tool to prevent HIV infection, performing it on babies as a form of medical intervention is unethical.
- ✚ Dr. He used the CRISPR–Cas9 gene editing technique in the twin girls to disable a gene called CCR5, which encodes a protein that allows HIV to enter and infect cells.

## Can disabling the CCR5 gene prevent HIV?

- ✚ While it is generally believed that babies without a functional CCR5 gene will become resistant to HIV infection, certain other strains of HIV use another protein (CXCR4) to infect cells. Hence, even people who are born with two copies of the non-functional CCR5 gene are not completely protected or resistant against HIV infection.
- ✚ There is also the possibility that the gene editing tool could have caused unintended mutations in other parts of the genome, which may lead to unpredictable health consequences.
- ✚ Most importantly, medicines and delivery through caesarean section and avoiding breast feeding can prevent vertical viral transmission from mother to foetus. While women with HIV have greater chances of passing the virus to the foetus, in this case, the mother was HIV-free; the father was HIV positive.

## Protective role of CCR5 Gene?

- ✚ The CCR5 gene's protective role against the West Nile virus is well established, the CCR5 gene can also help to protect the lungs, the liver and the brain during certain serious infections and chronic diseases.
- ✚ The gene is known to prompt the immune system to fight the influenza virus in the lungs. Without this gene the defence system would fail. In the case of people with multiple sclerosis, absence of this gene makes them twice as likely to die early.

## Was the Gene removed in both babies?

- ✚ There are two copies of the gene in every person. In the case of one baby girl both the copies of the gene were disabled but in the other baby, only one copy was disabled.
- ✚ So the baby with one functional copy of the gene might still be susceptible to HIV infection.
- ✚ The decision to implant the embryo with only one disabled copy makes the work all the more unethical.

## Steps taken by China to prevent misuse?

- ✚ Dr. He's experiment violates the 2003 guidelines that prohibits the use of gene-manipulated embryos for reproductive purposes.
- ✚ In February China posted the draft regulation requiring researchers to obtain prior approval from the government before undertaking clinical trials.
- ✚ Those found violating the rules will be punished and this includes a lifetime ban on research. China is now all set to introduce gene-editing regulation.

## 7.10 RICE BLAST DISEASE RESISTANCE

### Why in News?

- ✚ Rice blast, caused by a fungus *Magnaporthe oryzae*, is one of the major diseases of the rice crop. Now, researchers from ICAR-National Rice Research Institute (NRRI), Odisha have mapped out the diverse genes in rice that help in disease resistance.

### Rice Blast Disease:

- ✚ Rice blast caused by fungus *Magnaporthe oryzae*, is generally considered the most important disease of rice worldwide because of its extensive distribution and destructiveness under favourable conditions. Rice blast can affect most of the rice plant with the exception of the roots. The fungus can infect plants at any growth stage.
- ✚ Symptoms can be either lesions or spots. Their shape, colour and size vary depending on varietal resistance, environmental conditions and the age of the lesions.
- ✚ Rice blast is the most important disease of rice worldwide. Under favourable conditions, the disease can result in total crop failure.

### Background:

- ✚ From 1980-1987, seven blast endemics have occurred in India causing severe losses. Fungicides are very expensive, harmful for the environment and inappropriate application can cause health issues.

- ✚ Researchers around the globe have been on a hunt for resistant genes against the pathogen and so far, more than 100 resistance (R) genes in the rice genome have been identified.
- ✚ The rapid changes in pathogen virulence pose a constant challenge to the success of existing blast-resistant rice varieties. Therefore, there is always a need to identify new broad-spectrum blast resistant genes/alleles in rice germplasm such as landraces, wild rice, etc.,

### Findings:

- ✚ Researchers from ICAR-National Rice Research Institute (NRRI), Odisha have mapped out the diverse genes in rice that help in disease resistance.
- ✚ The present study showed that the rice landraces collected from north-eastern states of India had the highest resistance.
- ✚ The researchers found the presence of 24 previously pin-pointed resistant genes in the 161 rice landraces. The landraces were found to harbour 5-19 resistant genes.
- ✚ The landraces from Tripura had the highest number of resistant genes, followed by those from Maharashtra. The study also pointed out that rice varieties in the same ecological conditions can have different resistant/susceptible behaviours.

## 8. ART & CULTURE

### 8.1 CHAUKHANDI STUPA

#### Why in News?

- ✚ Chaukhandi Stupa, an ancient Buddhist site located in Sarnath, Uttar Pradesh, has been declared as a Monument and Protected Area of National Importance by the Archaeological Survey of India (ASI).

#### Chaukhandi Stupa:

- ✚ Chaukhandi Stupa is a lofty mound of brick whose square edifice is surrounded by an octagonal tower.
- ✚ It was built to mark the place where Lord Buddha met his first disciples as he traveled from Bodhgaya to Sarnath.
- ✚ The Chaukhandi Stupa is said to be originally a terraced temple during the Gupta period, that was from 4th to 6th Century.
- ✚ Govardhan, the son of Raja Todarmal gave the present shape to the Chaukhandi Stupa.
- ✚ He built an octagonal tower to commemorate the visit of Humayun, the great Mughal ruler.
- ✚ Archaeological Survey of India (ASI):
- ✚ ASI was formed on 1861 and is headquartered at New Delhi, India.

- ASI is the premier organization for the archaeological researches and protection of the cultural heritage in India.
- It functions under the Ministry of Culture.
- ASI is responsible for the regulation of all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958 and Antiquities and Art Treasure Act, 1972.

## 8.2 SAMADHI STUPA

**Context:** Sri Lankan President Maithripala Sirisena has gifted Indian Prime Minister Narendra Modi a Samadhi Buddha statue.

- The Samadhi Buddha is a famous statue situated at Mahamevnawa Park in Anuradhapura, Sri Lanka.
- The Buddha is depicted in the position of the Dhyana Mudra, the posture of meditation associated with his first Enlightenment.
- This statue is 7 feet 3 inches in height and carved from dolomite marble.

## 8.3 MAHARAJA RANJIT SINGH

### Context:

- Pakistan to celebrate Maharaja Ranjit's Singh 180th death anniversary by unveiling life-size sculpture in Lahore.

### About Ranjit Singh:

- He was the leader of the Sikh Empire, which ruled the northwest Indian subcontinent in the early half of the 19th century.
- He fought several wars to expel the Afghans and was proclaimed as the "Maharaja of Punjab"
- He repeatedly defeated invasions by outside armies, particularly those arriving from Afghanistan, and established friendly relations with the British.
- Ranjit Singh's reign introduced reforms, modernization, investment into infrastructure and general prosperity.
- His **Khalsa Army** and Government included Sikhs, Hindus, Muslims and Europeans, he strengthened both infantry and artillery. He brought new equipment of warfare and also established cannon foundries, gunpowder and arms factories.



- ✚ He was also known for his renovation of the Golden Temple in Amritsar. He was also a keen admirer of Guru Gobind Singh. He was popularly known as Sher-e-Punjab, or "Lion of Punjab". He died on 27 June 1839 aged 58 in Lahore. His Samadhi is in Lahore, Pakistan.

## 8.4 INDIA & PORTUGAL TO SET UP NATIONAL MARITIME HERITAGE MUSEUM

### Why in News?

- ✚ India has partnered with Portugal to set up a National Maritime Heritage Museum at Lothal in Gujarat.

### Highlights:

- ✚ The Indian Navy will be the stakeholder in the project and the Portuguese Navy will assist as they have experience in it by administering the maritime museum in Lisbon, Portugal.
- ✚ India is to follow a similar model of the maritime museum.
- ✚ In March 2019, Prime Minister Narendra Modi laid the foundation stone for the project and the Government of India has allocated a grant for building the maritime museum.
- ✚ The project will be implemented by the Ministry of Shipping through its Sagarmala programme. The Archaeological Survey of India (ASI) along with the State government and other stakeholders is also involved in setting up the museum.
- ✚ The initial discussion about the partnership was held during the visit of Portuguese Defence Minister João Gomes Cravinho to India in April 2019.
- ✚ A Defence Ministry-led delegation will visit Portugal to study the existing museum.

### Maritime Museum:

- ✚ A maritime museum is a museum that specializes in displaying the objects related to ships and travel on large bodies of water. A subcategory of maritime museums are naval museums, which focus on navies and the military use of the sea.

## 8.5 SAHITYA AKADEMI AWARDS

- ✚ Established in 1954, is a literary honour in India.
- ✚ The award's purpose is to recognize and promote excellence in Indian Writing and Also Acknowledge New Trends.
- ✚ The awards are given for works published in any of the 22 listed in the Eighth Schedule of the Indian Constitution, along with English and Rajasthani recognised by the Sahitya Akademi.

## 8.6 KAILASH MANSAROVAR YATRA

### About:

- ✚ **Organized by:** Kailash Mansarovar Yatra 2019 is being organized by **Ministry of External Affairs** with the support of the state governments of Uttarakhand, Delhi, and Sikkim; and the cooperation of **Indo Tibetan Border Police (ITBP)**.
- ✚ **Routes:** Kailash Mansarovar Yatra 2019 is scheduled from 8th June to 8th September this year through two routes.
  - ✚ Through **Lipulekh Pass, Uttarakhand.**
  - ✚ Through **Nathu La Pass, Sikkim.**
- ✚ **Funding:** Ministry of External Affairs does **not** provide any **subsidy or financial assistance** to Yatris.
- ✚ **Eligibility:** An Indian citizen, holding a valid Indian passport, aged minimum 18 years and maximum 70 years as on 1st January of the year, is eligible to apply for the Yatra.
- ✚ Those who hold foreign nationalities are not eligible. OCI card holders are, therefore, ineligible.
- ✚ **Religious significance:** Kailash Mansarovar Yatra (KMY) is known for its religious value and cultural significance. Being significant to Hindus as the abode of Lord Shiva, it holds religious importance also for the Jains and the Buddhists.



## 8.7 NAMMA KOLHAPURI CHAPPAL

- ✚ The approval for GI tag was jointly received by Karnataka and Maharashtra recently for making these chappals.
- ✚ These leather chappals are hand-crafted and tanned using vegetable dyes. The art of making them is passed down one generation to another.
- ✚ The traditional chappal making will get a modern touch. LIDKAR has in-house fashion designers who will design the footwear.

## 9. MISCELLANEOUS / SNIPPETS

### 9.1 INDIA RANKS LOW ON GENDER EQUALITY INDEX, STANDS AT 95 OUT OF 129 COUNTRIES

#### Why in News:

- India ranked 95th out of 129 countries in a new index, Sustainable Development Goals Gender Index, that measures global gender equality looking at aspects such as poverty, health, education, literacy, political representation and equality at the workplace.

#### Background:

#### Sustainable Development Goals Gender Index

- It has been developed by UK-based Equal Measures 2030, a joint effort of regional and global organisations including African Women's Development and Communication Network, Asian-Pacific Resource and Research Centre for Women, Bill and Melinda Gates Foundation, and International Women's Health Coalition.
- The new index includes 51 indicators across 14 of the 17 official Sustainable Development Goals and covers 129 countries across all regions of the world.
- The overall index scores are based on a scale of 0–100. A score of 100 indicates the achievement of gender equality in relation to the underlying indicators. A score of 50 would indicate that a country is about halfway to meet its goal. Scores of 59 or below have been rated “very poor”. The global average score of the 129 countries-which represents 95% of the world's girls and women- is 65.7 out of 100 (“poor” in the index scoring system).
- This means that almost 1.4 billion, or 40%, of the world's girls and women, live in countries failing on gender equality and another 1.4 billion live in countries that barely pass.
- India's score of 56.2 means that it is among 43 countries that fall in the ‘very poor’ category

#### More in News:

- No one country is the world's best performer-or even among the world's top ten performers-across all goals or all issues. Denmark, Finland, Sweden, Norway, Netherlands, Slovenia, Germany, Canada, Ireland, and Australia rank as the top 10 countries in the index
- The bottom 10 comprises Sierra Leone, Liberia, Nigeria, Mali, Mauritania, Niger, Yemen, Congo, DR Congo and Chad.

#### India's Performance

- India's highest goal scores are on SDG 3 of health (79.9), SDG 2 of hunger and nutrition (76.2) and SDG 7 of energy (71.8).

- ✚ India's lowest goal scores are on SDG 17 of partnerships (18.3, in the bottom 10 countries worldwide on the goal), SDG 9 of industry, infrastructure and innovation (38.1) and SDG 13 of climate (43.4). Some of the factors based on which the ranking of India has been decided include. The proportion of seats held by women in national parliaments (score of 23.6, 16th in the region, women made up 11.8 per cent of parliament in 2018),
- ✚ The extent to which a national budget is broken down by factors such as gender, age, income, or region (score of 0.0, tied for worst in the region) and
- ✚ Percentage of seats held by women on a country's Supreme Court or highest court (score of 18.2, 4th worst in the region). India ranks toward the bottom of the Asia and the Pacific region, ranking 17th out of the 23 Asia and the Pacific countries covered by the index.
- ✚ China ranked at 74 positions, Pakistan at 113 while Nepal and Bangladesh at 102 and 110 respectively.

## 9.2 RETIRED OFFICERS DIGITAL RECORDS ARCHIVE (RODRA)

### Retired Officers Digital Records Archive:

- ✚ Manpower Planning (MP) Directorate, (MP 5&6) is responsible for custody and maintenance of approximately 1.2 Lakh service records of serving and retired officers of the Indian Army.
- ✚ Due to lack of digitization and non-availability of latest address and contact details of veterans, connecting with veteran officers/family pensioners and addressing their grievances was a major challenge. To overcome the same a website Retired Officers Digital Records Archive (RODRA, <https://rodra.gov.in>) was launched.
- ✚ This aims to create a digital data repository in order to address documentation/pension related grievances and update on relevant policies.

### Utility of the Website:

- ✚ With this launch various types of Pension Payment Order (PPOs) issued by PCDA (P) from time to time to veterans has now been discontinued thereby saving of manpower, stationery and postal charges.
- ✚ The PPOs are now uploaded on the website and veterans are able to download it from the website. Monitoring and management of grievances of veterans has been streamlined thereby improving satisfaction levels.



### 9.3 ABUJH MARIA TRIBE

- ✚ Context: The Chhattisgarh government is processing habitat rights for Abujh Marias, a Particularly Vulnerable Tribal Group (PVTG).

#### About:

- ✚ Abujh Marias is a PVTG community, they are entitled to the habitat rights under FRA.
- ✚ Abujhmarh, where this tribe lives, is considered by the government to be one of the last remaining strongholds of Left-wing extremism.
- ✚ They have their own governance structure.
- ✚ The Abujhmarh forest is spread over 1,500 square miles in the Bastar region of Chhattisgarh.

### 9.4 UDCHALO' TO GIVE A NEW LEASE OF LIFE TO WOUNDED SOLDIERS

#### Why in News:

- ✚ In a bid to make wounded soldiers, who are confined to wheelchairs, self-reliant, an initiative 'UdChalo' is all set to take off at the Army's Paraplegic Rehabilitation Centre (PRC) in Punjab's Mohali.



#### Details:

- ✚ 'UdChalo' is a travel portal, that caters for the personal travel of the military and paramilitary forces personnel by aggregating defence fares and getting exclusive discounts.
- ✚ The PRC has joined hands with UdChalo with an aim to empower the disabled military veterans.

#### Purpose in life'

- ✚ Paraplegic and quadraplegic veterans have found a purpose in life through 'UdChalo', when they interact with fellow soldiers and resolve their concerns.
- ✚ The initiative is unique and has given a new lease of life of these soldiers who are confined to wheelchairs. PRC provides institutionalised care to soldiers, who are wounded in military or insurgency operations and can't adequately provide for themselves the constant medical care associated with quadriplegia and paraplegia. Currently, PRC has 31 ex-servicemen from across the country.

## 9.5 #IBELONG CAMPAIGN

### #IBelong Campaign:

- ✚ The UNHCR #IBelong Campaign was launched in November 2014. Together with States, civil society and other UN Agencies, it aims to end statelessness by 2024 by resolving existing statelessness, preventing new cases from emerging and better identifying and protecting stateless populations.
- ✚ Concerns: At least 10 million people worldwide are currently stateless and a baby is born stateless every 10 minutes. Not allowed a nationality, they are often denied the rights and services that countries normally offer their citizens.

## 9.6 GO TRIBAL' CAMPAIGN

### Why in News?

- ✚ 'Go Tribal' campaign, was launched by Union Ministry of Tribal Affairs and TRIFED (Tribal Cooperative Marketing Development Federation of India) in association with Amazon Global.

### Go Tribal' campaign:

- ✚ The objective of the campaign is to create awareness and promote tribal arts & crafts as well as help in the socio-economic welfare of more than 700 Indian tribes, by promoting and making available tribal handcrafted textiles, jewellery and other accessories via global online market spaces.
- ✚ Under the campaign, Tribes India and Amazon Global Marketing will launch TRIBES India products globally through their website (Amazon.com) which will showcase an array of the product range.
- ✚ Amazon, an e-commerce giant company will market 'Tribes India' collections under sections of 'Tribes of India Heritage Collection' which will include handcrafted textiles like ikats, silks and pashminas; tribal jewellery like dokras and banjaras, gifts and pottery and 'Tribes of India Natural Collection' which will include Telangana coffees, Uttarakhand soaps, Karnataka spices and more.

### Significance:

- ✚ The careful precision and handcrafted intricacy of works of tribal master craftsmen from all over India will be showcased through the 'Go Tribal' campaign.
- ✚ Through this initiative, the Government wants to promote Indian tribal communities and their art while helping them to go global and providing them opportunities to attain a sustainable livelihood. This could be achieved as the online market has no geographical boundaries.

## TRIFED:

- ✚ TRIFED is an organization that functions under the aegis of Union Ministry of Tribal Affairs and is engaged in the marketing development of tribal products including tribal art and craft under the brand name of TRIBES INDIA.

## 9.7 INDIA'S FIRST DINOSAUR MUSEUM-CUM- PARK IN GUJARAT

### Why in News?

- ✚ Gujarat Chief Minister Vijay Rupani inaugurated India's first Dinosaur-Museum-cum-Park in Balasinor city in the Mahisagar district.

### Highlights:

- ✚ It is set to give visitors a Jurassic Park kind of feel.
- ✚ The museum is located in Raiyoli area in Balasinor city which exhibit remains of various dinosaurs and fossil records.
- ✚ Dinosaur Museum cum Park is the first such park in the country and the world's third park.
- ✚ Raiyoli area is the third largest dinosaur fossil site in the world and it is also the second largest dinosaur hatchery in the world, where thousands of eggs had been found.
- ✚ It is equipped with modern technology like 3D projection, virtual reality presentations, interactive kiosks and life-size dinosaur replicas.
- ✚ It will display the evolution of dinosaurs on earth and probable reasons for their extinction.
- ✚ It is a world-class tourism spot and will prove useful to students as well as experts.

## 9.8 LIBRA FACEBOOK'S CRYPTOCURRENCY

### Context:

- ✚ Facebook has linked with 28 partners in a Geneva-based entity called the Libra Association, which will govern its new digital coin set to launch in the first half of 2020.
- ✚ Facebook has also created a subsidiary called **Calibra**, which will offer digital wallets to save, send and spend Libras.
- ✚ Calibra will be connected to Facebook's messaging platforms **Messenger and WhatsApp**.
- ✚ Calibra will conduct compliance checks on customers who want to use Libra, using verification and anti-fraud processes that are common among banks.
- ✚ Libra is a global currency and financial infrastructure.
- ✚ it is a digital asset built by Facebook and powered by a new Facebook-created version of blockchain, the encrypted technology used by **bitcoin** and other cryptocurrencies.

## Why Libra?

- ✚ Facebook claims it wants to reach the 1.7 billion people around the world who do not have access to a Bank Account.

## Authority In charge:

- ✚ The Libra Association is described by Facebook as an **independent, not-for-profit organisation** based in Switzerland.
- ✚ It serves two main functions:
  - ✚ To Validate Transactions on the Libra blockchain and
  - ✚ To Manage the Reserve Libra is tied to and allocate funds to social causes.
- ✚ It functions as what is known as a “**Stablecoin**”, pegged to existing assets like the dollar or euro, in the aim of making it less subject to the volatility that many Cryptocurrencies Experience.

## What is a Cryptocurrency?

- ✚ A cryptocurrency is a digital or virtual currency that uses cryptography for security.

## Advantages:

- ✚ A cryptocurrency is **Difficult to Counterfeit** because of the security feature of blockchain technology.
- ✚ It is **not issued by any central authority**, rendering it theoretically immune to government interference or manipulation.
- ✚ Cryptocurrencies hold the promise of **making it easier to transfer funds** directly between two parties in a transaction, without the need for a trusted third party such as a bank or credit card company; these transfers are facilitated through the use of public keys and private keys for security purposes.
- ✚ Fund transfers are done with minimal processing fees, allowing users to avoid the steep fees charged by most banks and financial institutions for wire transfers.
- ✚ At the same time, there is no central authority, government, or corporation that has access to your funds or your personal information.

## Disadvantages:

- ✚ The **Semi-Anonymous Nature of Cryptocurrency Transactions** makes them well-suited for a host of nefarious activities, such as money laundering and tax evasion.
- ✚ Since prices are based on supply and demand, the rate at which a cryptocurrency can be exchanged for another currency can fluctuate widely.
- ✚ The first cryptocurrency to capture the public imagination was Bitcoin, which was launched in 2009 by an individual or group known under the pseudonym, Satoshi Nakamoto.

- Bitcoin's success has spawned a number of competing cryptocurrencies, known as "**Altcoins**" such as **Litecoin, Namecoin and Peercoin**, as well as **Ethereum, EOS, and Cardano**.

### Cryptocurrency in India:

- RBI does not recognize any sort of Cryptocurrency as legal tender.
- The Reserve Bank has explicitly said that "entities regulated by RBI shall not deal with or provide services to any individual or business entities dealing with or settling VCs".

### 9.9 ADITYA- INDIA'S FIRST SOLAR FERRY



- Kerala** is gearing up for the launch of the country's premier solar-powered cruise boat by December 2019
- The initiative comes from the State Water Transport Department (SWTD), whose solar ferry Aditya in the Vaikom-Thavanakadavu route has proved to be a success
- Aditya incurs a rock-bottom energy expense of ₹200 a day, as compared to the approximately ₹8,000 needed for diesel-powered ferries.
- Solar vessels do not create air and noise pollution. The double-deck, double-engine catamaran-type vessel adheres to norms specified by the Indian Registry of Shipping (IRS). The vessel will have an air-conditioned lower deck and pushback seats.

### 9.10 WORLD REFUGEE DAY: 20 JUNE

- World Refugee Day is observed on the 20th of June every year.
- It celebrates the stories and contributions of refugees.
- The theme this year is **Step with Refugees - Take a Step on World Refugee Day**.

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- ✚ According to the latest annual study released by the office of the UN High Commissioner for Refugees, 70.8 million children, women and men were forcibly displaced at the end of 2018.

### 9.11 WORLD ELDER ABUSE AWARENESS DAY (WEAAD)

- ✚ The **United Nations (UN)** has designated **June 15** as World Elder Abuse Awareness Day (WEAAD).
- ✚ Aims to focus global attention on the problem of physical, emotional, and financial abuse of elders by bringing together senior citizens, their caregivers, and governments.
- ✚ UN also observes an **International Day of Older Persons on October 1** every year.

### 9.12 WORLD SICKLE CELL AWARENESS DAY

- ✚ World Sickle Cell Awareness Day is celebrated on June 19th of each year to raise the public awareness about the sickle cell disease and its treatment methods.
- ✚ Sickle cell disease (SCD) is an inherited genetic abnormality of hemoglobin (the oxygen-carrying protein found in red blood cells).

