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Swami Vivekananda

Why in news?

This year marks the **125th anniversary** of Swami Vivekananda's **address at Parliament of the World's Religions** in 1893 held in Chicago.

About Swami Vivekananda

- He was one of the prominent Hindu leaders who carried the Indian philosophies to the West including Vedanta and Yoga.
- His teachings and philosophy stressed on **different aspects of religion, youth, education, faith, character building as well as social issues pertaining to India.**
- He was a major force in the **revival of Hinduism** in India, and contributed to the concept of nationalism in colonial India.
- He was a **disciple of Ramakrishna**, from whom he **learned of the Divine and spiritual part of oneself** as well as the importance of kindness and service to mankind.
- Some of great literary works of Swami Vivekananda are Raja Yoga, Karma Yoga, Bhakti Yoga, Jnana Yoga, My Master, Lectures from Colombo to Almora.

Philosophy on Nationalism

- Vivekananda played a major role in the growing Indian nationalism in the late 19th and the 20th century, encouraging many Indians with his success and appeal in the west.
- Swami Vivekananda's nationalism is deeply rooted in **Indian spirituality and morality**. He linked India's regeneration to her age-old tradition of spiritual goal.
- Unlike western nationalism which is secular in nature, Swami Vivekananda's nationalism was **based on religion** which is life blood of the Indian people.
- He galvanized the National Spirit by **exposing the British policy of profiteering** in complete disregard to the Indian interests and taught people to get rid first of self-inflicted bondages and resultant miseries.
- Like Vivekananda, **Aurbindo Ghosh and Mahatma Gandhi** also realized that religion and spirituality are in the veins of Indians and worked for India's unification through awakening the force of religion and spirituality.

Philosophy on Religion

- His philosophy was **assimilation of ideals prescribed in all religions** and he believed that all the religions of the world have the same value and importance.
- He told that though the paths are different for different religions but the goal is same.
- He attached great importance to the unity of all religions and their fusion into **one universal religion.**
- Swami Vivekananda represented India and Hinduism at **the Parliament of the World's Religions (1893) in Chicago.**
- Swami Vivekananda said in his speech '**not only tolerate other religions, but positively embrace them, as truth is the basis of all religions.'**
- He spoke about **tolerance and universality of India's spiritual traditions.** He denounced narrow-mindedness and fanaticism.
- He promoted with equal zeal the idea of the **equality of all human beings.**

Ramakrishna Mission

- The Mission, founded by Vivekananda in 1897 is **a humanitarian organization which carries out medical, relief and educational programs.**
- Two main purposes of mission are to spread the teachings of Vedanta as embodied in the life of the Hindu saint Ramakrishna (1836–86) and to improve the social conditions of people.
- The ideals propagated by the mission include work as worship, the inherent

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divinity of every soul and the harmony of religions.

Philosophy on Education

- Swami Vivekananda laid the greatest emphasis on education for the regeneration of our motherland and a nation is advanced in proportion as education is spread among the masses.
- According to him "**education is the manifestation of perfection already in man and that what a man 'learns' is really what he 'discovers' by taking the cover off his own soul, which is a mine of infinite knowledge."**
- He advocated **a man-making character-building education**.
- He said that education must make the students self-reliant and help them face the challenges of life.
- He believed if young boys and girls are encouraged and are not unnecessarily criticized all the time, they are bound to improve in time.

Relevance of Swami Vivekananda's philosophy

- The message of Swami Vivekananda promoting spiritual integration of the nation and world on the basis of universal brotherhood and goodwill becomes all the more relevant in these times.
- It has the potential to avert wars ensuring peaceful co-existence of individuals and nations.
- Several Government schemes like 'Start Up India', 'Stand Up India', Atal Innovation Mission schemes as are based on his philosophy that the future of India lay in the hands of youth.
- The philosophy of 'Ek Bharat-Shrestha Bharat' is the essence of Swami Vivekananda's.

Advaita Vedantism

- Advaita Vedanta is a non-dualistic school of Hinduism with its roots in the Vedas and Upanishads which recognizes one reality and one God.
- Swami Vivekananda was a great lover of Vedantic philosophy and he spread Advaita Vedanta to the west via the Ramakrishna Mission.
- He presented karma, bhakti, jnana and raja yoga as equal means to attain moksha, to present Vedanta as a liberal and universal religion, in contrast to the exclusivism of other religions.

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Pingali Venkayya

Why in news?

Recently, 142th birth anniversary of Pingali Venkayya was observed.

About Pingali Venkayya

- He was a freedom fighter who was the brain behind designing of our National Flag – Tiranga.
- He also served in the British Army in South Africa during the Anglo Boer war in Africa and during this time he met Mahatma Gandhi.
- Between 1918 and 1921 Venkayya relentlessly campaigned for having our own national flag in every session of Congress. He even published a book in 1916 with over 30 designs.
- He was a nationalist, an ardent believer of Gandhian principles, linguist and a writer.
- After Venkyya returned from South Africa, he stated researching about farming and cultivation of cotton which earned him the nickname of Patti (cotton) Venkayya. He was also known as Japan Venkayya and Jhanda Venkayya.

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Heritage Circuit And North East Circuit

What to study?

- For Prelims and Mains: Various circuits covered under Swadesh Dashan scheme and key features of the scheme.
- ***Context:*** The Ministry of Tourism has sanctioned two new projects under ***Heritage and North East Circuits of Swadesh Dashan Scheme*** for Rs. 164.95 Crores in Punjab and Tripura.

Heritage Circuit:

- Under ***Heritage Circuit in the state of Punjab***, the project covers sites of Anandpur Sahib – Fatehgarh Sahib – Chamkaur Sahib – Ferozpur – Amritsar – Khatkar Kalan – Kalanour – Patiala at the cost of Rs. 99.95 crores.
  - The project includes development of Jallianwala Bagh in Amritsar for Rs. 8 Crores, development of Tourist Infrastructure and Heritage Path at Anandpur Sahib for Rs. 28.99 crores, development of Tourist Infrastructure at Fatehgarh Sahib among others.
  - The facilities being developed include Virtual Reality Shows (Jallianwala and Hussainiwala Border), beautification and landscaping, interpretation centres, façade development, wayside amenities, parking, CCTV and Wi-Fi facilities, Cafeterias, Open Air Theatre, drinking water facility etc.

North East Circuit:

- Under ***North East Circuit in Tripura***, the sites of Surma Cherra- Unakoti- Jampui Hills- Gunabati- Bhunaneshwari- Matabari- Neermahal- Boxanagar- Chotta khola- Pilak- Avangchaarra are covered with total project cost of Rs. 65 Crores.
- The project envisaged infrastructural development of the sites with special emphasis on developing an Interpretation Centre, Tourist Visitor Centres, Cafeteria, Last Mile Connectivity, Illumination of sites and monuments, Wayside Amenities, Floating Jetties, Camping Grounds, Parking Facilities, Adventure Activities, Ghat Development at above sites.

About Swadesh Darshan Scheme:

The Tourism Ministry had launched 'Swadesh Darshan' scheme with ***an objective to develop theme-based tourist circuits in the country***. These tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner.

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Project Navlekha

What to study?

- For Prelims and Mains: Key features and significance of the project.
- ***What? Google has unveiled Project Navlekha*** to make online content relevant for more Indian users especially in local languages.

About Project Navlekha:

- Navlekha in Sanskrit means "***a new way to write***."
- ***Google is using its expertise in artificial intelligence for Project Navlekha***, using which, it will quickly render any PDF with Indian language content into editable text, overcoming issues that usually occur when you try to copy text in Indian languages from a PDF.
- The project ***aims to bring 135,000 local language publishers online*** by making web hosting smooth and simple.
    - It will allow local publishers who do not have websites to make their offline content fit for online publishing in less than a minute. It also comprises tool that uses Artificial Intelligence (AI) to allow publishers to simply scan documents or PDFs and create instant web pages on the platform.
    - The project will provide a handy online publishing tool for local language newspapers and content companies—90% of which do not have a website.
    - The registered publishers on Navlekha will also be provided with free web hosting, along with a branded domain for three years. They'll also have AdSense support to begin monetising their content.
    - Under Navlekha project, Google will help these publishers to receive training and support and a branded page domain for the first three years.

Significance of the project:

At present, amount of online content in Indian languages is only 1% of what is available in English. India is important market for Google as it has second largest population of internet users in the world. Hence, with the new project the amount of resources available for Indians in local languages will increase.

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International Day For The Remembrance Of The Slave Trade And Its Abolition

What to study?

- For Prelims: What is Haitian revolution?
- For Mains: Causes, significance, impact and outcomes of the revolution.
- ***Context:*** The United Nations' ***International Day for the Remembrance of the Slave Trade and its Abolition*** is observed every year on ***August 23*** to remind people of the tragedy of the transatlantic slave trade, the largest deportation in history.
- The International Day for the Remembrance of the Slave Trade and its Abolition was first celebrated in many countries, in particular in Haiti, on August 23, 1998, and in Senegal on August 23, 1999.

Significance of the day:

- The day is commemorated to pay tribute to all those who fought for freedom and worked hard to abolish the slave trade and slavery throughout the world. This commitment and the actions used to fight against the system of slavery had an impact on the human rights movement.

Steps taken by the UNESCO:

- To honour the history of the slave trade and its abolition, UNESCO (United Nations Educational, Scientific and Cultural Organization) in 2017, added to ***its World Heritage List the Mbanza Kongo, Vestiges of the Capital of the former Kingdom of Kongo (Angola) and the Valongo Wharf Archaeological Site (Brazil), as an acknowledgement of their "outstanding universal value."***
- ***UNESCO also started an initiative in 1994 known as the 'Slave Route' project*** to contribute to a better understanding of the causes, forms of operation, issues and consequences of slavery in the world.

The Haitian revolution:

- The night of August 22-23, 1791, in Saint-Domingue, in what is Haiti and the Dominican Republic today, saw the beginning of the uprising that would play a crucial role in the abolition of the transatlantic slave trade.
- Men and women sold into slavery, revolted against the slave system to obtain freedom and independence for Haiti. The rebellion weakened the Caribbean colonial system, sparking an uprising that led to abolishing slavery and giving the island its independence.
- It marked the beginning of the destruction of the slavery system, the slave trade, and colonialism. ***The large and well-organized uprising, better known as the Haitian Revolution, lasted 13 years and ended with the independent nation of Haiti***.
- In 1888, nearly 85 years later, Brazil became the last nation in America to abolish slavery.

Outcomes and impact:

The success of the rebellion, led by the slaves is a deep source of inspiration today for the fight against all forms of servitude, racism, prejudice, racial discrimination and social injustice that are a legacy of slavery.

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Scheme For Pharmacovigilance Of Ayush Drugs

Why in news?

Ministry of AYUSH has introduced new Central Sector scheme for promoting pharmacovigilance of AYUSH Drugs.

About the scheme

- **Objective**: To develop the **culture of documenting adverse effects** & undertake safety monitoring of AYUSH drugs.
- It will undertake **surveillance of misleading advertisements** appearing in the print and electronic media.
- It intends to facilitate the establishment **of three-tier network** of National Pharmacovigilance Centre (NPvCC), Intermediary Pharmacovigilance Centres (IPvCCs) and Peripheral Pharmacovigilance Centres (PPvCC) to take up the work of reporting, documentation, analysis, causality assessment of the adverse reactions and events associated with the consumption of AYUSH drugs.
- **All India Institute of Ayurveda**, an autonomous body under the Ministry of AYUSH, has been designated as National Pharmacovigilance Centre for coordinating various activities of the initiative.
- The scheme also aims to achieve the target of 100 peripheral pharmacovigilance centres by 2020.
- Representatives of **Central Drug Standards Control Organisation** as the national drug regulatory authority and the **Indian Pharmacopoeia Commission** being the WHO Collaborating Centre for Pharmacovigilance in the country are associated in the initiative as mentor and guide.

About pharmacovigilance

- It is defined as the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem.

Need for Pharmacovigilance

- **Quality issues and safety concerns** of Ayurveda, Siddha, Unani and Homoeopathy Drugs raised from various sources.
- For **Public Health,** it is necessary to oversee the impact of ASU&H Drugs and detect potentially unsafe drugs.
- Requirement of **regulating the publicizing of improper drug information** in the form advertisements.
- To ensure **usage with prescription** and under supervision of a qualified medical practitioner.
- To prevent consumption of these drugs as over the counter drug
- To conduct premarketing safety evaluation as well as post marketing surveillance.

About Central Drug Standards Control Organisation

- It is the national drug regulatory authority.
- It is responsible for approval of New Drugs, Clinical Trials in the country and laying down the standards for Drugs.
- It exercises control over the quality of imported Drugs and coordination of the activities of State Drug Control Organisations.
- It provides expert advice with a view of bring about the uniformity in the enforcement of the Drugs and Cosmetics Act.

About Indian Pharmacopoeia Commission

- It is an Autonomous Institution under the Ministry of Health & Family Welfare.
- It is dedicated for setting of standards for drugs, pharmaceuticals and healthcare devices/ technologies etc.
- It also provides Reference Substances and Training.

While CDSCO has sole responsibility for Periodic Safety Update Reports, Indian Pharmacopoeia Commission (IPC) is in charge of co-ordinating Adverse Drug Reports (ADRs)

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Pradhan Mantri Jan Arogya Yojana

Why in news?
PMJAY has become the first healthcare scheme with Privacy policy.

Background

- This scheme was earlier announced in 2018 budget speech as PM Jan Arogya Abhiyan within the umbrella scheme of Ayushman Bharat (National Health Protection Mission).
- A miniature version of this scheme is already going on in Telangana from years. The entire IT platform used for this scheme will be outsourced from there.

PMJAY and Data Protection

- Since the scheme is based on Aadhar, several recommendations of Srikrishna Committee has been incorporated and Right to Privacy has been kept intact.
- The scheme will have its own Data Privacy Policy (Psudonymisation, anonymistaion and data minimisation, etc. will be done along with encryption, firewalls, etc. at various level).
- Digital health data will not be disclosed for commercial purposes, or to insurers, employers, or pharma companies.
- People will have right to request access to copies of their personal data, information on the processing activities carried out with it, request restriction of access or even withdraw consent.

Challenges

- Smooth coordination **between Centre and State** will be required.
- Smooth coordination **between ministries and various schemes** will also be required e.g. National Skill Development Corporation and National Health Agency has recently signed an MoU for skill development of Arogyamitras under PMJAY.
- States will have to develop a robust IT System. Only Six States have the administrative and technological capacity to implement this scheme now.
- Data Privacy is an emerging concept, and therefore the system will have to evolve in accordance with the development in technology and use/disclosure of data to private sector will require strict regulation.
- The system is based on Artificial Intelligence. Therefore, an ethical algorithm will be required so that the system does not discriminate on the basis of religion, caste, class, sex, etc.

More about the PMJAY

- **National Health Agency** will be its implementing authority.
- There will be a provision of **Rs 5 lakh per annum** as health assurance (no premium to be paid by beneficiary) **for each family** and free of cost treatment for serious diseases.
- The cashless benefits can be availed from any **public or private empaneled hospital** across India. However, the payment will be done on Package rate basis **(involving secondary and tertiary care**) defined by Government.
- This will be the **world's largest government-sponsored healthcare scheme** (10 Crore family or 50 Crore people) covering a population the size of the US, Canada and Mexico.
- People in **SECC will get automatically enrolled** in this scheme.
- States are free to choose the mode of implementation, which could either be insurance-based, trust-route or mixed model.

Benefits of the scheme: It will provide good quality, affordable healthcare to all, new infrastructure in tier II and III cities will reduce regional disparity, role of middle men and money lender will decrease and employment opportunities will be created in health and IT sector. It will be a Rights based approach and will help migrant communities as well.

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Related Information - Aarogyamitras:

- Literally the word means **Friends of Health**.
- They will **act as interface** between the beneficiaries of this scheme and the system.
- **NSDC** will skill them in terms of behavior, knowledge and presentation.
- NSDC will use its network of PM Kaushal Kendra (PMKK) under PM Kaushal Vikas Yojana (PMKVY).
- They will also be **certified by Health Care Sector Skill Council** (non-statutory body for health sector under NSDC).

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New Initiatives Under Swachh Bharat Mission (U)

Why in news?

Ministery of Housing & Urban Affairs recently launched Swachh Survekshan 2019, SBM ODF+ and SBM ODF++ Protocols and web-based citizen engagement platform Swachh Manch.

Swachh Survekshan 2019

- This fourth edition Swachh Survekshan 2019 aims to increase the coverage of the ranking exercise to all cities under Swachh Bharat Mission-Urban. (Swachh Survekshan 2018 ranked 4,203 Cities.)
- The distinctive features of the survey includes encouraging large scale citizen participation, ensuring sustainability of initiatives taken towards garbage free and open defecation free cities, providing credible outcomes which would be validated by third party certification etc.
- Data will be collected from 4 broad sources – 'Service Level Progress', Direct Observation, Citizens Feedback and Certification(newly introduced). Certification will done on two different components-
  - **Star Rating of Garbage Free Cities** (20% weightage of marks)- It includes components such as cleanliness of drains & water bodies, plastic waste management, managing construction & demolition waste, etc. which are critical drivers for achieving garbage free cities.
  - **Open Defecation Free Protocols** (5% weightage)

SBM ODF+ and ODF++ Protocol

- The original ODF protocol, issued in March 2016, said, "A city/ward is notified as ODF city/ward if, at any point of the day, not a single person is found defecating in the open. With 18 states / UTs and 3,223 cities declared ODF. The ODF+ and ODF++ protocols are the next step for the SBM-U and aim to ensure sustainability in sanitation outcomes.
- The ODF+ protocol says that a city, ward or work circle could be declared ODF+ if, "at any point of the day, not a single person is found defecating and/or **urinating in the open**, and all community and public toilets are functional and well-maintained."
- The ODF++ protocol adds the condition that "**faecal sludge/septage and sewage is safely managed and treated**, with no discharging and/or dumping of untreated faecal sludge/septage and sewage in drains, water bodies or open areas."
- Thus, the SBM ODF+ protocol focuses on sustaining community/ public toilet usage by ensuring their functionality, cleanliness and maintenance while SBM ODF++ will focus on achieving sanitation sustainability by addressing complete sanitation value chain, including safe containment, processing and disposal of faecal sludge and septage.

Swachh Manch web portal

- It is a web-based platform which aims to bring together every stakeholder contributing to the Swachh Bharat Mission under a common platform. It will allow stakeholders to create/invite/participate in volunteering opportunities around neighborhoods.
- It will enable uploads of pictorial evidence of citizens and organizations participating in the initiatives, as well as record the number of hours volunteered, as acknowledgement of citizens'/organisations' efforts and contributions to the cause of 'swachhata'.
- The Swachh Manch will also be integrated with the existing Swachhata App to act as a citizens' grievance redressal platform.

Including Public Urination in New Protocol

- This is the first time that the Swachh Bharat Mission (Urban) is officially

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including the elimination of public urination in its agenda.

- The Mission is focussed on infrastructure and regulatory changes, on the assumption that this will lead to behaviour change. It is believed that in the case of urban areas, the problem is not one of usage, but of availability.
- In cities, if toilets are available, accessible and clean, people will automatically use them rather than using the road. However, some have criticised this pointing out that public urination, especially by men, is almost entirely a behaviour change issue and it is currently impractical to include urination.

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The RTE Amendment Bill, 2017

Why in News?

Recently, in the monsoon session Lok Sabha passed the amendment to **The Right of Children to Free and Compulsory Education (second amendment) Bill, 2017** to abolish the 'No- Detention' policy in schools.

Background

- The **86th Constitution Amendment Act, 2002** requires the State to provide free and compulsory elementary education to all children. **The Right of Children to Free and Compulsory Education (RTE) Act, 2009** seeks to give effect to this Amendment under which all children between the ages of 6 and 14 years have the right to elementary education (class 1-8) in a neighbourhood school.
- The **Section 30 (1) of the RTE Act** states that a child cannot be detained in any class till the completion of elementary education.
- In recent years, two expert committees- **Geeta Bhukkal (2014)** and **TSR Subramanian (2016)**- reviewed the no-detention provision in the RTE Act and recommended it be removed or be discontinued in a phased manner.
- As per the amendment bill, regular examination will be held in Classes 5 and 8 and if a child fails there is a provision to give her additional opportunity to take a re-examination within two months. If she fails again in the re-examination, the relevant Central or State Government may decide to allow schools to detain the child.

Arguments against No Detention Policy

- **No incentives for children to learn and for the teachers to teach:** there is no provision under RTE Act to ensure objective measurement of learning outcomes through criteria such as attendance, test scores or examinations at the end of every class and thus automatic promotion reduces incentives for both children and teachers.
- **Children become non-serious, inattentive to studies and irregular in attendance:** for many students the Mid Day Meal is the only incentive, thus though No detention policy resulted in significant increase in enrollment, there has been little or no improvement in academic standards or quality of education.
- **Students lack required educational competence, knowledge and skills relevant to higher classes:** thus their poor performance further enhances in every subsequent class. Moreover, promoting laggards drags down the standard of the whole class and handicaps the teacher's ability to teach the curriculum at the expected pace which is unfair to the majority of the students in the class.
- **Increases the pressure and tension on the child:** Failing to ensure that child learns fundamentals of language (mother tongue) and basic arithmetic in primary classes increases the pressure and tension on the child and she may start drifting away from regular schooling system.
- **Reduction of dropout rate is an artificial construct and illusion created by No detention policy:** Automatic promotion of children only rolls over and postpones the problem of dropouts as seen from shoot up of dropouts in class 8 at the end of elementary stage.
- **Number of students failing in class 9 examinations has been on increase in many states:** In Delhi, for instance, the number of repeating students as a percentage of total students enrolled in Class 9 rose from 2.8% in 2010 to 13.4% in 2014, thus resulting in many states demanding a review of no detention policy.

Arguments for the No Detention Policy

- **Detaining children at the elementary level damages their self-esteem and give**

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them a permanent inferiority complex: The social stigma associated with "failing", has deeply damaging effects on the psyche of the child.

- **Detention leads to increased dropouts and rise in number of social problems:** Fear of failing in examinations and being detained has a detrimental effect on curricular learning for children. Detention leads to children dropping out of school and taking to vagrancy, begging and petty crime. On the other hand, keeping children in school prevents a host of social problems, including juvenile delinquency and child marriage.
- **Detention makes a child repeat entire syllabus of the class:** However, instead of detaining and repeating the same whole material again for another nine months, weaker areas of the child can be selectively targeted to cover the gaps in two or three months.
- **Learning as a continuous process:** Learning takes place in a continuum and any pass or fail categorization at a particular point of time is a narrow simplification and educationally invalid.
- **Issues with poor and vulnerable children:** In rural areas and among below poverty line families, educational awareness is missing which often result in late admissions in the schools. In other cases, children miss school for long periods due to poverty, illness, engagement in child labour and thus lag behind in their studies, performing badly in the examination. Detention will only aggravate these weaknesses and encourage them to drop out and remain unschooled forever.
- **Steady rise in the GER at the elementary level for the marginalized sections of the society:** for both boys and girls, as well as for Scheduled Castes, Tribes and other marginalised sections since the coming into effect of the no-detention policy. In a deeply fragmented society such as India, this is a significant gain which should not be reversed.

Way Forward

- Education should be inclusive and should have a common curriculum, so that all children become familiar with the basic concepts, tenets, principles and ethos of an Indian education.
- Detention should be resorted to only after giving the child remedial coaching and at least two extra chances to prove his capability.
- As recommended by TSR Subramanian committee if a child again fails to clear the examination, she should also be given other opportunities of pursuing her education through a vocational stream so that she can demonstrate her abilities and competencies elsewhere.
- Advances in technology must provide an additional 'augmentation' avenue to help the slow-learner child makeup for the lost ground.
- Simultaneously other significant areas such as teacher training, quality and accountability mechanisms must be improved in a holistic manner.

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Suicide In India

Why in news?

Suicides in India have increased by 23% from 2000 to 2015 according to data released by the National Health Profile, 2018.

Causes of suicides in India

- **Farmers Suicides**
  - **The National Crime Records Bureau (NCRB)** report underlines that indebtedness is found to be the single largest underlying cause behind farmers' suicide.
  - Maharashtra which had the largest number of farmer suicides concluded that 93 percent of all these suicides are due to debt.
- **Student Suicides**
  - Parents' over expectations on their academic achievements and criticisms on their underperformance could be contributing factors
- **Suicide in armed forces**
  - Soldiers posted in far flung areas and on prolonged deployment undergo tremendous mental stress
  - This could be compounded by the lack of basic amenities, ineffectual leadership, and humiliation at the hands of their officers.
- **Indebtedness in Rural India**
  - The NSSO data indicates that in 2002 about 27 percent of rural Indian households were indebted and 18 percent of urban households. In 2013 the rural indebtedness in Indian households had gone up to 31 percent.
- **Family problems' and 'illness'** are the leading reported causes of suicides.
- **Substances abuse:** Many of the substance abusers attempt suicide while under the influence of alcohol
- Other reasons such as **poverty, unemployment, lover affairs and bankruptcy** are very insignificant reported causes of suicides.

Challenges

- **Role of Media in Spreading Suicide Contagion**
  - It has the tendency to glorify and sensationalize the deaths resulting in a highly charged emotional atmosphere that promotes further suicidal behaviour.
  - Behavioural and psychiatric problems make cluster members more susceptible to suicide. And a significant number of these appear to be associated with suicide stories in the mass media.
- **Impact of internet and other communication networks on suicide**
  - Excessive users of internet were found to have high scores on anxiety and depression
  - Games such as 'Blue Whale' which is encouraging people to kill themselves.

Way forward

- **Opening up of suicide prevention clinics** in all the Medical College Hospitals, District Head Quarters Hospitals etc. will help to prevent repeat attempts
- Revamping the educational system with an objective to promote holistic development of the child, rather than the undue emphasis on scoring of marks in various subjects
- Restricting the access to means of suicide including measures for control of availability of pesticides, medications, etc.
- Largest share of suicides in India is committed by **housewives** whose concerns can also be addressed through **improved access to mental and physical healthcare.**
- It is imperative for policy makers in India to take note and design interventions that can address distress amongst various population groups and not aggravate by

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misjudging and focusing on indebtedness alone.

- **Easy access to credit and better MSPs** can help reducing farmer suicides
- **Media should avoid glamorizing the victim**, for example highly publicized politician visits and offering special packages might aggravate suicide contagion.
  - It should avoid excessive detailing of the suicide method
  - It is imperative that the media has a **code of ethics and guidelines for reporting suicides.**

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Study On Transgenders

Efforts taken to improve the situation of transgenders in India

- **National Legal Services Authority versus Union of India:** The Supreme Court of India legalized the presence of transgender people in 2014, and allowed the legal creation of a "third gender" category.
  - The judgement also called for affirmative action in education, primary health care, and that transgenders be identified as beneficiaries of social welfare schemes.
  - NHRC in its report has pointed that center and state government have failed to implement SC guidelines in NALSA judgement or bring laws to improve lives of the transgenders. There is also no clarity on OBC status of transgenders".

- **Transgender Persons (Protection of Rights) Bill, 2016:**
  - The Bill **defines a transgender person** as one who is partly female or male; or a combination of female and male; or neither female nor male. In addition, the person's gender must not match the gender assigned at birth, and includes trans-men, trans-women, persons with intersex variations and gender- queers.
  - It **prohibits discrimination** against a transgender person in areas such as education, employment, and healthcare. It directs the central and state governments to provide welfare schemes in these areas.
  - Offences like compelling a transgender person to beg, denial of access to a public place, physical and sexual abuse, etc. would attract up to two years' imprisonment and a fine.
  - It directs Central government to constitute a **National Council for Transgender** headed by the Union Minister of Social Justice and Empowerment.
  - It provides **no child who is born a transgender can be separated from his parents** except on a court's order.
  - Every transgender person shall have
    - ✓ a right to reside in the house-hold where parent or immediate family members reside;
    - ✓ b) a right not to be excluded from such house-hold or any part thereof;
    - ✓ a right to enjoy and use the facilities of such house-hold in a nondiscriminatory manner.
  - The Government shall take the following measures in relation to the transgender persons, namely:
    - ✓ a separate **HIV surveillance Centres**;
    - ✓ to provide for **medical care facility including sex reassignment surgery** and hormonal therapy; pre and post sex reassignment surgery and hormonal therapy counselling;
    - ✓ bring out a Health Manual related to sex reassignment surgery in accordance with the World Professional Association for Transgender Health guidelines;
    - ✓ to facilitate access to the transgender persons in the hospitals and other healthcare institutions and centres;
    - ✓ provision for coverage of medical expenses by a **comprehensive insurance scheme for transgender persons.**
  - **Issues with the bill:**
    - ✓ The Bill states that a person recognised as 'transgender' would have the right to 'self- perceived' gender identity. However, it does not provide for the enforcement of such a right. A District Screening Committee would issue a

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certificate of identity to recognise transgender persons.
- ✓ The Supreme Court has held that the **right to self-identification of gender** is part of the right to dignity and autonomy under Article 21 of the Constitution.
- ✓ The **definition of 'transgender persons'** in the Bill is at variance with the definitions recognised by international bodies and experts in India.
- ✓ The Bill includes terms like 'trans-men', 'trans-women', persons with 'intersex variations' and 'gender- queers' in its definition of transgender persons. However, these terms have not been defined.
- ✓ Certain criminal and personal laws that are currently in force only recognise the genders of 'man' and 'woman'. It is unclear how such laws would apply to transgender persons who may not identify with either of the two genders.
- ✓ It **does not include the creation of institutions like the national and State commissions for transgenders**, as well as transgender rights courts which were part of the earlier draft bill.

- University Grants commission in 2014 issued a notification to facilitate the education of transgenders such as grievance cells in colleges, separate category in admission and examination forms etc.
- **Important steps taken by states:**
  - o **Tamil Nadu** is frontrunning state in taking steps for development of transgenders by providing them education, identity cards and subsidized food and free housing. In a pioneering effort to address the issues faced by transgender people, the government of **Tamil Nadu** established **a transgender welfare board** in 2008 (West Bengal, Maharashtra, Chhattisgarh and Karnataka have also established the board).
    - ✓ Seats have been reserved in colleges and universities for the members of transgender community.
    - ✓ Tamil Nadu AIDS Initiative has formed a federation of 20,000 transgenders which provides various health services to its members.
  - o **Kerala government** brought the **'State Policy for Transgenders in Kerala 2015'** to provide the "right to live with dignity."
    - ✓ Village and district panchayats and municipalities have been tasked with finding jobs, running special training and skills programmes and welfare projects.
    - ✓ A Transgender Justice Board has been established to address issues of discrimination and violence against them.
    - ✓ The Kochi Metro also provides jobs quota to Transgenders.

Successful Transgender persons in India

- In 1998 Shabnam Mausi became first transgender to get elected to a public office.
- In 2014, Grace Banu was the first transgender student to secure admission in an engineering college.
- In 2015, India got its first transgender college principal when Manabi Bandhopadhyaya joined as the principle of Krishnagar Women's College in West Bengal.
- Revathi became the first transgender to write about transgender issues and gender politics in Tamil.
- Padmini Prakash is the first transgender television news anchor in the country.

International Practices

- Countries like Denmark, Malta and Argentina have made legislations related to self-determination. Following Argentina's lead India can choose to adopt

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the **Yogyakarta principles-** i.e. adopt a model of gender recognition that does not rely on a diagnosis by medical professionals.

- In United Kingdom change in legal sex does not have an effect on marriage, security benefits/pensions and do not adversely affect parenthood or succession rights.
- Following precedents set by Iran, Argentina and Brazil sexual reassignment surgery and hormone therapy should be defined as a public health right and be made freely available.

Way forward

- Government has taken certain measures to identify and enumerate transgender population. These measures need more streamlining and inter- ministerial cooperation is also required.
- While various state governments formulated schemes for transgender communities, a National policy is an urgent need to ensure greater involvement of transgender persons in policy formulation and program development.
- It is important to **sensitize parents of transgender children and other members of the society** with regards to the human rights of the transgender community.
- Transgender children are under severe stress and low self-esteem and **counselling services** need to be provided to them. A component of such services could be included under the Integrated Child Protection Schemes.
- **Legal and the law enforcement systems need to be empowered and sensitized** on the issues of Transgender community. Special Grievance Redressal Cells for their protection should be set up in all police stations.
- **Child Protection laws need to be strengthened** to address issues faced by transgender adolescents. The abandonment of child is a punishable offence under Section 317 of IPC. The age limit of child for this offence need to be increased to 18 years as abandonment of transgender children usually takes place between 12 and 18 years.
- **Care homes for transgender children** should be setup to prevent exploitation of vulnerable transgender children.
- **Legally transgender cannot enter into a marriage,** have spouse and setup their own family in India. They need to be provided right to marry and right to a family along with right of sexual orientation.
- Government should take steps to provide housing facilities to transgender people.
- **Transgender people should get equal employment opportunities** and every employer should be made to declare policy statement on trans recruitments.
- **Local governments need to play a positive and proactive role** in removal of taboos and discrimination.
- **All treatment and other facilities** should be provided at free of cost or at subsidized rates to all transgender patients in both government and private hospitals.
- School and colleges need to play a supportive and encouraging role in providing education and value-system to Transgender.
- Establishment of helpline for career planning and guidance, career opportunities and online placement system must be empowered.
- Liberal credit facilities and financial assistance must be ensured to start up their career as an entrepreneur or businessman.

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Anganwadi Centres (AWCS)

What to study?

- For Prelims: AWCs and ICDS-features.
- For Mains: Significance of AWCs in fighting child hunger and malnutrition.
- ***Context:*** A total of 14 lakh AWCs have been sanctioned to various States/UTs across the country which consists of about 1.36 lakh AWCs located in the urban areas. As on 01.06.2018, 13.63 lakh AWCs (rural and urban) are operational.
- As per the data captured through the ICDS Monitoring Information System, about 24.3% AWCs out of 13.63 lakh operational AWCs (rural and urban) are running in rented buildings.

What are Anganwadi Centres (AWCs)?

- Anganwadi is a type of rural mother and child care centre in India. They were started by the Indian government in 1975 ***as part of the Integrated Child Development Services program*** to combat child hunger and malnutrition.
- They provide ***a package of six services***–supplementary nutrition, referral services, immunisation, health check-up, pre-school non-formal education and health and nutrition education– to women and children.

Challenges faced by AWCs?

- About a third of total 13.6 lakh anganwadi centres have ***neither toilets nor drinking water facilities***.
- In Manipur only 21 per cent AWCs have drinking water facilities followed by Arunachal Pradesh (28.51 per cent), Uttarakhand (29.04 per cent), Karnataka (38.76 per cent), Telangana (40.21 per cent), Jammu and Kashmir (48.18 per cent) and Maharashtra (53.47 per cent).
- Similarly, in Telanagana only 21.30 per cent AWCs have toilets, followed by Manipur (27.05 per cent), Jharkhand (38.74 per cent), Andhra Pradesh (43.93 per cent), Jammu and Kashmir (44.11 per cent), Assam (47.51 per cent), Arunachal Pradesh (48.73 per cent) and Odisha (52.64 per cent).

Integrated Child Development Service (ICDS):

- ICDS is one of the flagship initiatives of Govt. of India that is being implemented in the state by WCD Dept.
- ICDS seeks to provide young children with an integrated package of services such as supplementary nutrition, health care and pre-school education.
- ICDS programme seeks to provide all basic essential services to children and mothers in an integrated manner right in their villages or wards. Gradually, the scheme has been expanded to urban slums and to rural and tribal blocks.

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All-Women Expedition To Mt. Manirang

What to study?

- For Prelims: Mt. Manirang- location and other key facts.
- For Mains: Related to women empowerment.
- **Context**: An all-women expedition team has begun its journey to Mt. Manirang from Himachal Pradesh. The expedition commemorates the silver jubilee of 1993 Women Everest expedition.

The 1993 Women Everest expedition:

- The Indo-Nepalese women's Everest expedition in 1993 was the first all women expedition, launched by Indian Mountaineering foundation.
- It was ***funded by the Ministry of Youth Affairs and Sports***.
- The 21-member team was ***led by Ms. Bachendri Pal***.
- The historic expedition set up several world records at the time which included the largest number of persons (18) of a single expedition to climb Mount Everest, largest number of women (six) from a single country to climb Mount Everest.
- Santosh Yadav, member of the team, became the first woman in the world to climb Mount Everest, while Miss Dicky Dolma became the youngest women (19) years in the world to climb the highest peak in the world.

About Mt. Manirang:

- Manirang is one of the highest mountains in the Indian state of Himachal Pradesh. It lies on ***the border between Kinnour and Lahaul and Spiti district***.
- Mount Manirang (Altitude: 6593 mtr. / 21625.04 ft) is known as the crown of the Spiti valley.
- The whole region is situated in the rain shadow area and more or less lies dry other than winter.

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Triple Talaq Bill

What to study?

- For Prelims: What is Triple Talaq, Important provisions of the Bill.
- For Mains: Issues related to Triple talaq and observations made by the Supreme Court.
- ***Context:*** The Union Cabinet has approved a few amendments in the instant triple talaq bill. The amended triple talaq bill will be tabled in Rajya Sabha for its approval.

Background:

- In December, the Lok Sabha passed the Muslim Women (Protection Bill, 2017), which criminalises the practice of talaq-e-bidda. This came after the Supreme Court on August 22, 2017, struck down triple talaq, calling the Islamic practice unconstitutional.

Changes in the triple Talaq Bill- The Cabinet made three amendments to the triple talaq law: One: provision for bail:

- While the proposed law will remain "non-bailable" offence, the accused can approach a magistrate even before the trial to seek bail. Under a non-bailable offence, bail cannot be granted by police at the police station. A provision has been added to allow the magistrate to grant bail 'after hearing the wife'. "But the offence of instant triple talaq under the proposed law remains non-bailable.
- The magistrate would ensure that bail is granted only after the husband agrees to grant compensation to the wife as provided in the bill. The quantum of compensation will be decided by the magistrate, as per the bill.

Two- check misuse:

- Another amendment makes it clear that the police would lodge FIR only if approached by the victim (wife), her blood relations or people who become her relatives by virtue of her marriage. This would settle fears that even a neighbour can file FIR as is the cases in any cognisable offence. This would check misuse.

Third- A compoundable offence:

- The third amendment makes the offence of instant triple talaq "compoundable". Now, a magistrate can use his powers to settle the dispute between a husband and his wife. Under a compoundable offence, both parties have the liberty of withdrawing the case. However, the jail term for a Muslim man who resorts to triple talaq remains three years and only a magistrate, and not a local police officer, can release the accused on bail.

What did the original Bill include?

- If a Muslim man resorts to triple talaq then he will face a jail term of three years, as instant triple talaq will now be considered a non-bailable, cognisable offence.
- Opting for triple talaq could also attract fine and the amount would be the magistrate's call who would be hearing the case.
- A Muslim wife can also approach a magistrate and ask for subsistence allowance for herself and her minor children.
- A victim of triple talaq can seek the custody of her minor children from the magistrate who will take the final decision on the issue. Only Jammu and Kashmir will be out of the ambit of the proposed law.

What is instant triple talaq?

- There are three forms of talaq (divorce) in Islam: Ahsan, Hasan and Talaq-e-Biddat (triple or instant talaq). Ahsan

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and Hasan are revocable but Biddat is irrevocable. Biddat is cons idered sinful but is permissible in Islamic law. It has been banned in more than 20 Muslim countries, including Pakistan and Bangladesh.

Delhi Police Gets India's First All-Women Swat Team

What to study?

- For Prelims: India's first all- women SWAT.
- For Mains: Significance of such initiatives and how they help in empowering women.
- ***Context***: Delhi will be the first police force in the country to have an all-women SWAT team.

Key facts:

- Trained by specialists from India and abroad, 36 women constables from northeastern states have been inducted into the squad after rigorous, 15-month training.
- The maximum numbers of members (13) are from Assam and five each from Arunachal Pradesh, Sikkim and Manipur.
- These commandos will be stationed at strategic locations in central and south Delhi. Amids intel inputs of women fidayeens planning to target the capital, this all-women unit would helm the security apparatus around Red Fort and India Gate as well. Many of them would be posted in anti-terror vans called ***Parakram***.
- The women are trained to handle challenges unique to the capital—like climbing multi-storey buildings or carrying out hostage rescue operations at hotels, buses or metro.
- The formation of this team is being considered a big achievement as most western countries do not have all-women SWAT teams due to the kind of training required to become one.

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Sexual Harassment Of Women At Workplace Act

What to study?

- For Prelims: Features of the Act.
- For Mains: Significance and the need for this legislation.
- ***Context***: As per the latest amendment to the Companies (Accounts) Rules, 2014, it is now mandatory to disclose compliance under the Sexual Harassment of Women at Workplace Act in the Annual Reports of Private companies.

Significance of the move:

- This is a major step towards making the workplace safe for the women in the private sector. This will cast as ever higher responsibility on the Directors of the Companies for implementation of the Act.

The Sexual Harassment Of Women At Workplace (Prevention, Prohibition And Redressal) Act 2013:

- The Act seeks to cover all women, irrespective of their age or employment status and protect them against sexual harassment at all workplaces both in public and private sector, whether organized or unorganized. It came into force on December 9, 2013.

Some important provisions of the Act:

- The Act defines sexual harassment at the work place and creates a mechanism for redressal of complaints. It also provides safeguards against false or malicious charges.
- ***The definition of "aggrieved woman"***, who will get protection under the Act is extremely wide to cover all women, irrespective of her age or employment status, whether in the organized or unorganized sectors, public or private and covers clients, customers and domestic workers as well.
- ***Definition of workplace:*** While the "workplace" in the Vishaka Guidelines is confined to the traditional office set-up where there is a clear employer-employee relationship, the Act goes much further to include organisations, department, office, branch unit etc. in the public and private sector, organized and unorganized, hospitals, nursing homes, educational institutions, sports institutes, stadiums, sports complex and any place visited by the employee during the course of employment including the transportation.
- ***Every employer is required to constitute an Internal Complaints Committee*** at each office or branch with 10 or more employees. The District Officer is required to constitute a Local Complaints Committee at each district, and if required at the block level.
- ***Functions of the committee:*** The Committee is required to complete the inquiry within a time period of 90 days. On completion of the inquiry, the report will be sent to the employer or the District Officer, as the case may be, they are mandated to take action on the report within 60 days.
- ***Powers:*** The Complaints Committees have the powers of civil courts for gathering evidence. The Complaints Committees are required to provide for conciliation before initiating an inquiry, if requested by the complainant.
- ***Penalties have been prescribed for employers***. Non-compliance with the provisions of the Act shall be punishable with a fine of up to 50,000. Repeated violations may lead to higher penalties and cancellation of licence or registration to conduct business.

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Kanyashree Scheme

What to study?

- For Prelims: Key features of the Scheme, UN Public awards.
- For Mains: Significance and performance of the scheme.
- ***Context:*** West Bengal government has announced that there would not be any ceiling for a family's annual earnings to be a beneficiary under the ***UN award winning Kanyashree scheme***. ***Currently, girls who belong to families with annual family income not more than Rs 1.20 lakh is entitled to get the benefits***.
- The state government would also be coming up with a "Kanyashree University" for girls soon.

About Kanyashree scheme:

- ***What is it?*** Kanyashree is a conditional cash transfer scheme aiming at improving the status and well being of the girl child by incentivising schooling of teenage girls and delaying their marriages until the age of 18. It received the United Nations Public Service Award last year.
- ***Performance of the scheme:*** Through the initiative, cash was deposited into the bank account of girls for every year they remained in school and were unmarried. This initiative led to a "drastic reduction in child marriage, increase in female education and female empowerment."

UN Public Service Awards:

- The UN Public Service Awards are given by the world body to institutions from across the world for their innovation and excellence in providing public services.
  1. It highlights the pivotal role of public services in the implementation of the Sustainable Development Goals (SDGs).
  2. The Awards aim at discovering innovations in governance; reward excellence in the public sector; motivate public servants to further promote innovation; enhance professionalism in the public service; raise the image of public service; enhance trust in government; and collect and disseminate successful practices for possible replication.

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Ease Of Living Index

About the index:

- The index has been developed to allow city managers to get a grip on the city's baseline and compare its performance across key indicators.
- The index covers 111 cities that are smart city contenders, capital cities, and cities with population of 1 million plus.
- The index captures the quality of life based on the data collected from the urban local bodies on four parameters, which were further broken down into 15 categories.
- The four parameters include institutional (governance), social (identity, education, health, security), economic (economy, employment) and physical factors (waste water and solid waste management, pollution, housing/ inclusiveness, mixed land use, power and water supply, transport, public open spaces).
- Institutional and social parameters carry 25 points each, physical factors have a weightage of 45 points and economic factors five points totalling to a 100 mark scale on which cities were evaluated.

Performance of states:

- Pune has ranked first while two more Maharashtra cities — Navi Mumbai and Greater Mumbai — figure in the second and third spots.
- Tirupati, Chandigarh, Thane, Raipur, Indore, Vijaywada and Bhopal also figure in the top 10 list in that order. Among other major cities, Chennai holds 14th rank, Ahmedabad 23rd, Hyderabad 27th, and Bengaluru 58th.
- Rampur in Uttar Pradesh has ranked the worst on the scale with Kohima and Patna on the bottom two and three ranks while Varanasi stands at 33. Kolkata is excluded from the index.

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China May Scrap Limit On Number Of Children

What to study?

- For Prelims: Key facts on one- child and two- child policies of China.
- For Mains: Need, concerns associated with such policies, can such policies be adopted by India?
- ***Context:*** China is planning to scrap the limit on the number of children couples can have. A draft civil code that would end decades of controversial family planning policies has been prepared.

Highlights:

- The code would get rid of a policy that has been enforced through fines but was also notorious for cases of forced abortions and sterilisation in the world's most populous country.
- The code omits any reference to "family planning" — the current policy which limits couples to having no more than two children.
- Other proposed changes include a one-month cooling off period before a divorce, during which either party can withdraw their application.

The long history of limits on the number of children a couple can have:

- The Communist Party began enforcing a one-child policy in 1979 to slow population growth. The limit was raised to two children in 2016 as the nation scrambled to rejuvenate its greying population of some 1.4 billion.

The need for removal of restrictions:

- Concerns are mounting that an ageing and shrinking workforce could slow down its economy, while gender imbalances could lead to social problems. Also, childbirths have not increased as much as forecast since the two-child policy came into force.

Why One Child Policy was adopted by China?

- One child policy was adopted by China in 1979 out of the Malthusian fears that unchecked population growth would lead to economic and environmental catastrophe.
- It was also a response to concerns about food shortages.

What is Malthusian theory all about?

- Thomas Robert Malthus was the first economist to propose a systematic theory of population. He articulated his views regarding population in his famous book, Essay on the Principle of Population (1798), for which he collected empirical data to support his thesis.
- He argued that if left unchecked, a population will outgrow its resources, leading to a host of problems.

Why China changed its policy?

- China has a population of over 1.4 billion, 30% of which is over the age of 50. There is also huge gender imbalance. Now, China needs more people for joining workforce.
- The working population in China is coming down and elderly population is going up. So Communist Party of China has changed one-child policy to a two-child policy as the country is looking further ahead that China to have larger families.

What's good about One Child Policy?

- Helps to ease the over population problems.
- It is seen as practical by some families.
- Lowers the poverty rate.

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Why it isn't a good idea?

- The enforcement is unequal.
- It is a human rights violation.
- Shrinking work population.
- Gender imbalance due to the strong cultural preference of boys for labor and work.
- Increase in abortions and female infanticide.
- Extra babies end up being illegal and never becoming a citizen, due to fines.
- Intrudes on people's personal values and opinions.

Why such policies are not suitable for India?

- The implications of such a policy being enforced in India would surely have been more disastrous than it did in China.
    - ***India is way behind China in basic development indicators like life expectancy, IMR and maternal mortality rate***. The preference of a male child, the regional disparities in development, and the growing intolerance against minorities in the present milieu would be further magnified with the state entering homes and enforcing such strict norms.
    - ***The fact that women are at the receiving end of such policies in a patriarchal society is another story in itself***. The burden of limiting family size falls on the woman, and most often female sterilisations are promoted rather than giving the couple the choice of contraception.

Limiting family size cannot be an end in itself at the neglect of basic needs and services like food security, housing, education, and health. It is important for a state to universalise these basic services than to impose a diktat of population control. When China imposed a one-child policy, it had already created a strong base for its population, despite which the consequences were severe. Therefore, it would be disastrous for India to even walk that path.

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Global Liveability Index

What to study?

- For Prelims: Features of the Global Liveability Index, rankings of various countries, Indian Cities in the list.
- For Mains: Significance of the index and what makes cities more liveable?
- ***Context***: The Economist Intelligence Unit (EIU) has released the Global Liveability Index 2018. The index ranks 140 global cities based on their living conditions.
- The liveability index quantifies the challenges that might be presented to an individual's lifestyle in 140 cities worldwide, and assesses which locations provide the best living conditions.

PARAMETERS OF THE GLOBAL LIVEABILITY INDEX:

- The list ranks 140 cities on a range of factors, including:
  - Political and social stability.
  - Crime
  - Education
  - Access to healthcare.

The survey rates cities worldwide based on 30 qualitative and quantitative criteria, which fall into five general categories:

1. Stability
2. Health care
3. Culture and environment.
4. Education
5. Infrastructure

As per Economist Intelligence Unit's (EIU) Global Liveability Index, 2018, the top 10 cities to live in the world are:

1. Vienna
2. Melbourne
3. Osaka
4. Calgary
5. Sydney
6. Vancouver
7. Tokya
8. Toronto
9. Copenhagen
10. Adelaide

EIU's Global Liveability Index, 2018, puts the following cities at the bottom of the list:

1. Senegal's Dakar at 131.
2. Algeria's Algiers at 132.
3. Cameroon's Douala at 133.
4. Libya's Tripoli at 134.
5. Zimbabwe's Harare at 135.
6. Papua New Guinea's Port Moresby at 136.
7. Karachi at 137.
8. Nigeria's Lagos at 138.
9. Dhaka at 139.
10. Damascus at 140.

Key facts:

- This year too, not a single US city could make it into the top 10 cities.
- It is the first time that a European city has topped the rankings.
- Security has improved in "several western European cities" and Vienna's top place reflects "a relative return to stability across much of Europe".
- South Asian countries including India have fared poorly in the ranking of the world's most liveable cities.
- Pakistan's financial capital Karachi and Bangladesh's capital Dhaka are among the world's least liveable cities.

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GS - II

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Uttarakhand High Court Appoints Itself Legal Guardian Of Cows In State

What to study?

- For Prelims: Highlights of the verdict and the directions issued, what is parens patriae doctrine?
- For Mains: Significance and implications of the judgment.
- ***Context:*** The Uttarakhand high court would henceforth act as ***the legal guardian of cows in the state***. It has also issued some directions to the state government in this regard.

Significance of the judgment:

- This is the first time in India that a court has had invoked the 'parens patriae' doctrine for cow protection.
- Parens patriae: The court did this by invoking the 'parens patriae' doctrine. Parens patriae in Latin means 'parent of the country' and is a doctrine that grants the court inherent power and authority to act as guardian for those who are unable to take care for themselves.

Implications of the judgment:

- The court can now act as the legal guardian of the cows in the state and keep a tab on all issues related to cows especially its directions with regard to their protection.
- If there are any violations in laws and rules regarding cows, the court can take suo moto cognisance and issue directions to the state.

Background:

- The judgment came as a response to a public interest litigation claiming that stray cattle were being slaughtered and waste from a slaughter house was flowing into water bodies , posing a health threat to the villagers.
- The court cited animal welfare law, national and international documents and Hindu religious texts to say that animal welfare was part of "moral development of humanity".

Important Directions issued by the Court:

- All civic bodies in the state shall construct "gaushalas/gausadans" or shelters/homes for housing cows and other stray cattle within one year.
- No commercial charges shall be levied for supplying the electricity and water connections to gaushalas/shelters.
- The state government shall register cases against people who abandon cows and owners of cattle found on the streets, roads and public places under the Indian Penal Code, Prevention of Cruelty to Animals Act, 1960 and Uttarakhand Protection of Cow Progeny Act, 2007.
- The state government shall also set up a special squad to be headed by an officer not below the rank of deputy superintendent of police in both the Kumaon and Garhwal regions with one veterinary doctor to protect cows.
- The court banned slaughter of cows, bulls, bullocks, heifers or calves in the state and ruled that no person shall sell beef or beef products in any form in Uttarakhand.

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INTACH

What to study?

- For Prelims: INTACH- key facts.
- For Mains: Significance and the need for preservation of heritage sites.
- ***Context:*** The Indian National Trust for Art and Cultural Heritage (INTACH) has called for transforming heritage buildings in Rajasthan into "economic assets" for the society. Economic benefits could be derived from these properties as an alternative to paying for their upkeep on a regular basis.

About Indian National Trust for Art and Cultural Heritage (INTACH):

- The Indian National Trust for Art and Cultural Heritage (INTACH) is ***a non-profit charitable organisation*** registered under the Societies' Registration Act, 1860.
- ***Aim:*** It was founded in 1984 with the vision to create a membership organisation to stimulate and spearhead heritage awareness and conservation in India.
- ***Contributions:*** Since 1984, INTACH has pioneered the conservation and protection of India's natural and cultural heritage and is today the largest membership organisation in the country dedicated to conservation.
- In 2007, the United Nations awarded INTACH ***a special consultative status with United Nations Economic and Social Council***.

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Punjab's Sacrilege Law

Why in news?

Punjab cabinet has proposed to amend Section 295A of Indian Penal Code.

Provisions of the amendment

- It will introduce a new section 295AA in IPC.
- It proposes life imprisonment for whosoever cause injury, damage or sacrilege to four religious texts, that is the Guru Grant Sahib, the Quran, the Bhagwat Geeta and the Bible.
- Aims to promote social harmony and public order.

Criticism

- Punishment of life imprisonment is disproportionate. Further, already Section 295A of IPC exists which criminalizes 'deliberate and malicious acts intended to outrage religious feelings'. Under it, the scope of punishment is 3 years with or without fine.
- Sacrilege is vague which makes the law too vast and liable for misuse.
- Curbs freedom of speech. Also, there is a fear that we are increasingly becoming a society governed by criminal law taking away substance of our fundamental rights.
- The article defiles the sacredness of the Book because the status of the Book now becomes an artefact of state power. In other words, rather than being luminous, potent and transcendent texts, their status is now reduced to a section of the Indian Penal Code.
- Punjab's sacrilege legislation is akin to Pakistan's blasphemy laws, which have led to the ascendance of theocracy and religious violence in Pakistan. State interfering in the religious matters is inconsistent with idea of secular India.

Way forward

Supreme Court has upheld the Constitutional validity of section 295A in 1957 as an instrument to punish aggravated insults to religion, with the intention to 'disrupt public order' which is well within the purview of reasonable restrictions provided under Article 19(2) of the Indian Constitution. Going beyond Section 295A can prove to be a double-edged sword. It needs comprehensive debate before it is amended.

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Family Law Reforms

Why in News?

Law Commission of India has released a Consultation Paper on '**Reform of Family Law'**

Background

- The ministry of law and justice made a reference to the Law Commission of India on June 2016 to examine matters in relation to the **Uniform civil code.**
- The aim was not to identify an identical procedure for all but **to correct the gender discriminatory nature of family laws across religions**.
- In the absence of a consensus on a uniform civil code, the best way forward for India may be to **preserve the diversity of personal laws while ensuring that they do not contradict the fundamental rights.**
- It pointed out that the **prevailing personal laws place women at a disadvantaged position.**
- The report deals with **four key issues**: marriage and divorce, custody and guardianship, adoption and maintenance, and succession and inheritance.

Recommendations

- **Age of consent for marriage:** It advocates for **change in the age of consent for marriage**, opining that the current difference of 18 years for girls and 21 years of age for boys simply contributes to the stereotype that wives must be younger than their husbands.
- **Marriage and Divorce**
  - **Grounds for divorce (No-fault Divorce):** It refers to a situation where the emotional and other bonds, which are the essence of marriage, have disappeared and only a façade remains.
  - The commission suggested that where a marriage has ceased to exist both in substance and in reality, **divorce should be seen as a solution** rather than a taboo.
  - **Community of Property upon Divorce and Maintenance:** It recommends that a no-fault divorce must accompany community of self-acquired property, owing to the fact that women are usually left in a vulnerable position while allowing for immediate and unilateral divorce.
  - **Rights of Differently-Abled Persons in Marriage:** The paper recommends amendments to exclude from grounds for divorce, forms of illnesses that can be cured or controlled with adequate medical treatment or counselling.
  - **Special Marriage Act**: It calls for **modification of the 30 day notice period for registration of marriage**, in view of the misuse of the provision to discourage an inter-caste or an inter-religion marriage.
- **Custody and Guardianship**: Guardians and Wards Act, 1890 to be amended to the extent that a **husband is not regarded as the guardian of the wife**, and both the parents equally share responsibility of the child born from such wedlock
- **Adoption and Maintenance:** Juvenile Justice (Care and Protection of Children) Act, 2015 is inadequate in addressing the jurisprudential questions on adoption. It then strongly suggests the use of the term 'parents' in place of 'mother and father' in adoption, to enable individuals of all gender identities to avail of the Act.

o It also recommends that the word 'child' should replace son and daughter so as to ensure that intersex
children are not excluded from being adopted.

- The current law does not permit a male adult to adopt a female child. It is suggested that there should be a provision of adoption to a single parent irrespective of gender and gender identity of the child as well as the parent.

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- **Succession and Inheritance**.
  - It advocates for abolition of coparcenary and suggests that the right in a property by birth be extinguished by opting for 'tenancy-in-common' instead of 'joint tenancy'.
  - **Hindu Undivided Family (HUF) has also been suggested to be abolished**, noting that the institution of HUF was being used for **tax avoidance.**

What is Uniform Civil Code?

- A Uniform Civil Code essentially means a common set of laws governing personal matters for all citizens of the country, irrespective of religion.
- Currently, different laws regulate these aspects for adherents of different religions.

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Wrongful Prosecution

Percentage of under trials	Time spent in prisons
25.1%	More than 1 year
17.8%	Upto 1 year
21.9%	3 to 6 months
35.2%	Upto 3 months

Why in News?

Recently, Law Commission of India (LCI) submitted its 277th report titled "**Wrongful Prosecution (Miscarriage of Justice): Legal Remedies**" to the Government.

Background

- **India has one of the highest under trial populations in the world:** According to National Crime Records Bureau's (NCRB) annual Prison Statistics India (PSI) report 2015, there were more than 4.19 lakh prisoners across India out of which 67.2% were under trials (i.e. people who have been committed to judicial custody pending investigations or trial). During 2015, more than 82,500 prisoners were released by acquittal and more than 23,400 prisoners were released in appeal.
- Undertrials spend a substantial period of time awaiting trials/judicial determinism of their case which becomes a **graver miscarriage of justice** when the person is wrongfully accused and incarcerated pending trial and proceedings which he should not have been subjected to in the first place.

- **Such situations often result in violations of fundamental rights** of the victim under Article 21 and 22 of the constitution, gross human rights violations, social stigma faced, precious years lost, mental, emotional and physical harassment, huge expenses incurred during the process and overcrowding of prisons.
- **Infringement of a fundamental right due to police and prosecutorial misconduct involves State liability**. However, there is a lack of effective response from the State to the victims of such wrongful prosecutions within the current Criminal Justice System in the country. Remedies available under the present system remain complex and uncertain, creating only an ex-gratia obligation without any statutory or legal backing for the rights of victim.
- **Article 14(6) of International Covenant on Civil and Political Rights, 1966 (ICCPR)** dealing with miscarriage of justice creates an obligation on the State parties to enact a legislation ensuring that these victims are compensated within a reasonable period of time. India ratified the ICCPR in 1968 but is yet to enact the legislation for the same.
- Delhi High Court in **Babloo Chauhan Case** had requested LCI to examine the possibility of the legislation for providing relief and rehabilitation to victims of wrongful prosecution and incarceration in India. LCI has therefore setout standards to be applied in the above cases of miscarriage of justice and has also presented a **Draft Code of Criminal Procedure (Amendment) Bill, 2018** to suitably incorporate the recommendations.

Recommendations of LCI

- **'Wrongful prosecution' to be the standards of miscarriage of justice, as against 'wrongful conviction' and 'wrongful incarceration':** 'Wrongful prosecution' would include cases where the accused and not guilty of the offence, and the police and/or the prosecution engaged in some form of misconduct in investigating and/or prosecuting the person. It would include both the cases where the person spent time in prison as well as where he did not; and cases where the accused was found not guilty by the trial court or where the accused was convicted by one or more courts but was ultimately found to be not guilty by the

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Higher Court.

- **Need for a transparent legislative process:** There needs to be an established legislative process, according a transparent, uniform, affordable, efficacious and timely remedy for the loss and harm inflicted on the victims on account of wrongful prosecution.
- **Designation of Special Courts in each district** for adjudicating upon claims of compensation for wrongful prosecution. The cause for action would arise if there was malicious prosecution or prosecution without good faith and there was an acquittal.
- **Compensation, both pecuniary and non-pecuniary, to effectuate the rehabilitation of the victims into the society:** While pecuniary assistance will be in terms of monetary award as may be determined by special court, non-pecuniary assistance will be awarded in the form of services such as counseling, mental health services, vocational/employment skills development, removal of disqualifications that might affect chances of accused persons finding employment in public and private sectors, admission into educational institutes, etc.
- **Factors to determine compensation:** Compensation in such cases would depend upon various factors, including the seriousness of the offence, severity of punishment, the length of incarceration, loss or damage to health, psychological and emotional harm and the status of the victim in the society.

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Manipur People's Protection Bill, 2018

Why in News?

A new bill was recently passed by the Manipur assembly to regulate the entry and exit of "outsiders" on the lines of British-era regulatory regime.

Key features of Manipur People's Protection Bill, 2018

- The bill seeks to "protect the identity of indigenous people" of the state from the influx of outsiders**.**
- **It defines "Manipuris" and "non-Manipuris"** and seeks to regulate the entry and exit of the latter in order to protect the interests and identity of the former.
- According to the Bill, Manipuris include the Meiteis, the Pangal Muslims, Manipuri scheduled tribes listed under the Constitution and Indian nationals **who have been living in Manipur before 1951.**
- Those who didn't fall under this umbrella were deemed "non-Manipuris" and were given a month to register themselves to the authorities.
- For this Bill to become a reality, it requires a nod from the President of India.

Issues with the Bill

- **The Bill sets 1951 as the base year** to identify locals and prevent an influx of outsiders. If approved by the Governor and made an Act, people who came to Manipur after 1951 would be **viewed as "foreigners" and would have no voting or land rights**
- A 1951 cut-off was **problematic for tribal communities** as data of several villages in the National Register of Citizens, 1951, as well as in the Village Directory of 1951 is not available or not accurate – which, in turn, could render many tribals as non-state subjects
- The **state of Manipur was formed on January 21, 1972** and thus a number of stake holders wanted it to be the cutoff date.
- The tribal protestors claimed an Inner Line Permit would serve only the interests of the Meiteis, and enable them to encroach upon the hills and tribal lands.

What is Inner Line Permit (ILP)?

- The ILP is a British-era system to regulate entry and exit of outsiders in a protected area.
- It is operational in Arunachal Pradesh, Mizoram and Nagaland.
- The system requires outsiders to obtain a permit from the government to enter the designated territory.
- It can be issued for travel purposes solely.
- The main objective of the ILP system is to provide a special protection of the distinct identity and safeguard for the peaceful existence of the indigenous people of the state.

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Varieties Of Democracy Report

Why in news?

Recently **The Varieties of Democracy Report for 2018** (V-Dem) has been released which provides the most sweeping global examination of democracy.

Varieties of Democracy (V-Dem)

- It is an international research project which aims to develop new indicators of democracy in all countries all over the world from 1789 to the present.
- The project is led by the **V-Dem Institute** at the University of Gothenburg, Sweden.
- It covers 178 countries
- It is backed by the European Union and funded by a multitude of different institutions (government and non-government) and think tanks.

Concerns regarding India

- India is indicted as a "**backslider**" since the **quality of democracy has declined** over the past ten years and sharply declined since 2014
- India retains a system of free, fair multi-party elections and thus, qualifies as an **Electoral Democracy**
  - But it has seen major erosion in indicators such as Freedom of Expression, Rule of Law and Freedom of Association

Different Categories for Classification

- **Liberal Democracy**: where every citizen has equal rights and access to the law; there's strong freedom of expression; good institutional systems to deliver justice, freedom of association, participatory elections, etc**.**
- **Electoral Democracy**: Here citizens have the vote but certain categories of people such as women and poor suffer exclusion and lower standards apply when it comes to human rights, freedom of expression and association, etc.
- **Electoral Autocracy:** where citizens have the vote but not much else. Repression, censorship and institutionalised intimidation are visible in such places.
- **Closed Autocracy:** In a closed autocracy is totally free of being answerable to its people, and their rule is carried out with fear and intimidation.

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BIMSTEC Summit

Why in News?

Recently, the 4th summit of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was held in Nepal.

More about 4th summit

- The meeting is taking place after a gap of four years, the 3rd BIMSTEC Summit took place in Nay Pyi Taw in 2014.
- Several important decisions taken in the summit include:
  - **Drafting a charter** for BIMSTEC, which has functioned so far on the basis of the Bangkok Declaration of 1997.
  - **Setting up of a Permanent Working Committee** to provide direction during the period between two summits and also to prepare the Rules of Procedure.
  - The Secretariat has been promised **additional financial and human resources** and enhancement of its role to coordinate, monitor and facilitate the grouping's activities.
  - Establishing a **BIMSTEC Development Fund,** with voluntary contributions from the Member States.
  - Welcomed Thailand proposed **new strategy of five pillars** (viz. connectivity, trade and investment, people-to-people contacts, security, and science and technology) as a part of rationalisation of focus sectors
  - **Strongly condemn terrorism** in all its forms and manifestations.

Significance of BIMSTEC

- Around **22% of the world's population** live in the seven countries around the Bay of Bengal, with a combined GDP close to $2.7 trillion. A fourth of the world's traded goods cross the bay every year.
- It has **high economic potential,** given the region's economic dynamism, huge markets and rich natural resources.
- It appears as a **connector to multiple regional initiatives.** Among seven-member countries, five members of BIMSTEC are also members of SAARC, two are part of ASEAN and six are part of SASEC.
- **Bangladesh** views BIMSTEC as a platform to position itself as more than just a small state in the Bay of Bengal and Sri Lanka sees it as an opportunity to connect with Southeast Asia and serve as the subcontinent's hub for the wider Indian Ocean and Pacific regions.
- **For Nepal and Bhutan,** BIMSTEC stands to further their aspirations to reconnect with the Bay of Bengal region and escape their landlocked geographic positions.
- **For Myanmar and Thailand,** connecting more deeply with India across the Bay of Bengal would allow them to access a rising consumer market and, at the same time, balance Beijing and develop an alternative to China's massive inroads into Southeast Asia.
- **Importance for India**
  - For India, it is a natural platform to fulfil our key foreign policy priorities of '**Neighbourhood First**' and '**Act East**'.
  - **Stagnation of SAARC** is also a key reason for India to reach out to BIMSTEC as stagnation limited the scope of India's growing economic aspirations as well as the role it could play in improving regional governance.
  - BIMSTEC provides new battleground for India-China. It could allow India to push a constructive agenda to **counter Chinese investments** such as in Belt and Road initiative, and follow international norms for connectivity projects which Chinese projects are

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widely seen as violating.
- It could develop codes of conduct that **preserve freedom of navigation** and apply existing law of the seas regionally.
- It could stem the region's creeping militarisation by instituting, for instance, a **Bay of Bengal Zone of Peace** that seeks to limit any bellicose behaviour of extra regional power

Challenges

- **BIMSTEC Free Trade Agreement** which was negotiated in 2004 to boost the intra-regional trade from its present level of 7% to 21% is yet to be finalized.
- **India-Myanmar-Thailand Trilateral Highway** has yet not been completed, which is crucial to trade movement between the countries.
- BIMSTEC has the advantage of having a number of rising economies in the region but it is one of the **least integrated parts of the world.**
- **Lack of consistency in the Summit:** In its 2 decades, BIMSTEC leaders met only thrice at the summit level.
- It has **slow pace of growth** due to absence of focus on areas of cooperation, weak institutional mechanism, financial constraints etc.
- **Terrorism** is the most significant threat in the Bay of Bengal region as well as South East Asia and there is need for more cooperation amongst the member states on this issue.
- **Maritime Security Issues:**
  - **2015 Rohingya refugee crisis** has made thousands of 'boat people' vulnerable to recruitment by criminal networks, sea pirates, and Islamist militants.
  - The Bay is also prone to some of the most severe natural disasters, incidents of sea piracy, and illegal, unreported, and unregulated (IUU) fishing.
  - At present, maritime security cooperation initiatives within the sub-region do not include all the coastal Bay states– for instance, CORPAT exercises, Milan exercises, and the 'IO-5' grouping.

Achievements of BIMSTEC

- **BIMSTEC Coastal Shipping Agreement** and **BIMSTEC Motor Vehicle Agreement (MVA)** are being negotiated.
- BIMSTEC countries have completed negotiations for the Memorandum of Understanding (MoU) on the establishment of the **BIMSTEC Grid Interconnection.**
- BIMSTEC Agreement on Mutual Assistance on Customs Matters has been signed and is under ratification.
- Considerable progress has been achieved in areas such as cooperation among national security agencies, cooperation to check security threats such as smuggling, human trafficking, drugs and piracy, etc.
- **Secretariat has been established at Dhaka** along with few BIMSTEC Centres in the region.

Way forward

- To make BIMSTEC further lucrative, there is a need for increasing its membership base. BIMSTEC should consider **expanding its membership** to Indonesia, Malaysia, and Singapore - the three major Asian powers
- BIMSTEC shall give special focus on **BIMSTEC cross-border e-commerce and digital connectivity.** It may also consider opening a negotiation on BIMSTEC Railway Agreement
- **More socio-cultural interactions** will build greater sense of ownership of BIMSTEC among the people of the region.
- A regional trade facilitation agreement is also needed for cooperation in the matter of customs, training and capacity building, exchange of information, settling disputes, etc. It should also aim

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for **regulatory harmonisation** to ensure export of goods without requiring additional certification.

- **Strengthen IPR cooperation** to help countries move higher up in the technology ladder, encourage transfer of technology and stimulate innovation and creativity.
- BIMSTEC countries should facilitate air connectivity, particularly to **link India's Northeast with Bangladesh, Myanmar and Thailand.** It may prove to be a catalyst for promotion of tourism and services trade.
- BIMSTEC should consider **forging tie-ups with other multilateral organizations** in areas like manpower training and knowledge exchanges.

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FSSAI Notifies Standards For Honey & Its Products To Curb Adulteration

What to study?

- For Prelims: New standards notified and about FSSAI.
- For Mains: Food adulteration menace and efforts to prevent it, significance of the bee sector.
- ***Context:*** The regulator FSSAI has come out with food safety standards for honey and its products, in a bid to curb adulteration.

Background:

- At present, there are no separate quality standards for honey and its products. The move comes in the wake of government promoting farmers to venture into the beekeeping business to increase their income.
- The standards will help fetch farmers better prices for their products.

The standards notified:

- ***Parameters:*** As per the FSSAI notification, honey should comply with 18 parameters like that of sucrose content, glucose ratio, pollen count, foreign oligosaccharides among others.
- ***Limits and standards:*** The FSSAI has fixed maximum 5% limit for sucrose content in the honey, while 10% for carviacallosa and Honeydew honey. The moisture percentage should be maximum 20% and pollen count should be 25,000 per gram. With regard to by-products, the FSSAI has fixed standards for 'Bees wax' and 'royal jelly' also.
- ***The regulator has defined honey*** as the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of plants, which honey bees collect, transform and store in honey combs for ripening.
- ***No additives:*** If a product is sold as honey then food ingredient, including food additives should not be added to it. It should not be heated or processed to such an extent that its essential composition is changed and its quality is impaired.
- ***Labelling:*** Honey can be labelled according to floral or plant source, if it comes from any particular source, and has the organoleptic, physicochemical and microscopic properties corresponding with that origin.
- ***Pollen content:*** In the case of 'Monofloral Honey', the regulator said the minimum pollen content of the plant species concerned should not be less than 45 per cent of total pollen content. In case of 'Multi Floral Honey', the pollen content of any of the plant species should not exceed 45 per cent of the total pollen content.

Facts for Prelims:

- ***Bees wax*** is obtained from the honeycombs of bees of Apidae family after the honey has been removed by draining or centrifuging. Beeswax consists of a mixture of esters of fatty acids and fatty alcohols, hydrocarbons and free fatty acids. Minor amounts of free fatty alcohols are also present.
- ***The combs*** are melted with hot water, steam or solar heat and the melted product is filtered and cast into cakes of ***yellow bees wax***.
- ***White bees wax*** is obtained by bleaching the yellow bees wax with oxidising agents.
- ***Royal jelly*** is the mixture of secretions from hypopharyngeal and mandibular glands of worker bees, free from any

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additive. It is the food of larval and adult queens. It is a raw and natural food, unprocessed except for filtration which does not undergo addition of substances. The colour, taste and the chemical composition of royal jelly are determined by absorption and transformation by the bees fed with the following two types of foods during the royal jelly production time.

Significance of the sector:

- About 90,000 tonnes of honey of all varieties is produced annually in the country. There are about 30 lakh honey bee colonies and five lakh people are engaged in the business.
- The government is promoting honey production through the mission for integrated development of horticulture (MIDH) and the National Bee Board has been formed for implementing various activities for development of scientific beekeeping under MIDH.

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123rd Constitutional Amendment Bill

Highlights of the Bill:

- The bill provides for ***the grant of constitutional status to the National Commission for Backward Classes (NCBC)*** on par with the National Commission for Scheduled Castes and the National Commission for Scheduled Tribes.
- ***Powers of the President:*** It states that the President may specify the socially and educationally backward classes in the various states and union territories. He may do this in consultation with the Governor of the concerned state.
- ***The duties of the NCBC*** include investigating and monitoring how safeguards provided to the backward classes under the Constitution and other laws are being implemented and probe specific complaints regarding violation of rights.
- ***Report:*** The NCBC will be required to present annual reports to the President on working of the safeguards for backward classes. These reports will be tabled in Parliament, and in the state legislative assemblies of the concerned states.
- ***Powers of a civil court:*** Under the Constitution Amendment Bill, the NCBC will have the powers of a civil court while investigating or inquiring into any complaints. These powers include: (i) summoning people and examining them on oath, (ii) requiring production of any document or public record, and (iii) receiving evidence.

Present status of NCBC:

- The Supreme Court, in its final verdict in the Indira Sawhney (Mandal Commission) case, had directed the establishment of the NCBC as a statutory body. Based on this, a law was passed in 1993 to set up the commission. The NCBC has been examining cases for inclusion in the BC lists for the Central government since then.

Concerns:

- A widely welcomed move to grant constitutional status to the National Commission for Backward Classes (NCBC) has also brought with it a whiff of controversy over whether it amounts to encroaching on the domain of the States.
- Several Opposition parties, which in general welcome the grant of constitutional status to the BC Commission, have said the Bill, if enacted, would undermine federalism, as it amounts to usurping the power of State governments to prepare their own BC lists.
- The Centre has sought to allay these fears, saying the powers of the States would remain unaffected. In any case, the list for every State will be prepared only in consultation with the State government.

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Deputy Chairman Of Rajya Sabha

The Deputy Chairman of Rajya Sabha:

- The Deputy Chairman is a constitutional position created under ***Article 89 of the Constitution***, which specifies that Rajya Sabha shall choose one of its MPs to be the Deputy Chairman as often as the position becomes vacant. The office becomes vacant either by resignation or removal from office or when the Rajya Sabha member's term gets over.

Election of Deputy Chairman:

- The election of a Deputy Chairman shall be held on such date as the Chairman may fix and the Secretary-General shall send to every member notice of this date.
- At any time before noon on the day-preceding the date so fixed, any member may give notice in writing addressed to the Secretary-General of a motion that another member be chosen as the Deputy Chairman of the Council, and the notice shall be seconded by a third member and shall be accompanied by a statement by the member whose name is proposed in the notice that he is willing to serve as Deputy Chairman if elected: Provided that a member shall not propose or second more than one motion.
- A member in whose name a motion stands in the list of business may, when called, move the motion or not move the motion, in which case he shall confine himself to a mere statement to that effect.
- The motions which have been moved and duly seconded shall be put one by one in the order in which they have been moved and decided if necessary by division. If any motion is carried, the person presiding shall, without putting later motions, declare that the member proposed in the motion which has been carried, has been chosen as the Deputy Chairman of the Council.

Powers of Deputy Chairman etc. while presiding:

- The Deputy Chairman or other member competent to preside over a sitting of the Council under the Constitution or these rules shall, when so presiding, have the same power as the Chairman when presiding over the Council and all references to the Chairman in these rules shall in these circumstances be deemed to be, references to any such person so presiding.

Significance of the position:

The Deputy Chair is the one position that is elected solely by members of Rajya Sabha. It is a critical position not just because s/he steps in when there is a vacancy in the office of Chairperson/Vice President but also because s/he plays a critical role in ensuring the smooth running of the House.

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Asian Development Bank Strategy 2030

Why in News?

Recently, Asian Development Bank (ADB) released its long-term corporate strategy i.e. Strategy 2030.

About the ADB- Strategy 2030

- It is policy framework for ADB that sets out the its broad vision and strategic response to the **evolving needs of Asia and the Pacific.**
- Social Dimension: In contrast to earlier Strategy 2020- the Strategy 2030 document emphasis on human and social factors, in addition to the usual infrastructure and the private sector.
- Regional or Country Specific Approach: Due to sheer diversity of this region (include both landlock and Small island countries), ADB has, for the first time, adopted a differentiated approach to various groups of member nations.
- **One ADB Approach:** This includes bringing together expertise and knowledge in a range of areas across the ADB as an institution.

Priority Areas of Strategy 2030

- Addressing remaining poverty and reducing Inequalities: Under this policy efforts will also address **non-income dimension** of poverty.
- Accelerating progress in gender equality
- Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability
- Making cities more liveable
- Promoting rural development and food security
- Strengthening governance and institutional capacity
- Fostering regional cooperation and integration

India and ADB

- India was a founding member of ADB and is now the fourth-largest shareholder, but operations in the country began only in 1986, when India opted to become a borrowing member.
- The **country partnership strategy (CPS) 2018-2022** will focus on three pillars.
  - Pillar 1 will boost economic competitiveness to create more and better jobs by expanding infrastructure networks for transport and energy along economic corridors, enhancing management of corridor development and urban centers, and addressing the skills gap to support industrialization.
  - Pillar 2 will provide inclusive access to infrastructure networks and social services by improving the infrastructure bottlenecks in lagging regions, providing better municipal services for the urban poor, and supporting investments in rural infrastructure to improve agricultural productivity and reduce the growing rural-urban income gap. Efficient public sector management will be supported to create fiscal space for

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investments in inclusive growth for social and rural development.
  - Pillar 3 will address environmental degradation through mitigating the negative impacts of climate change and promoting sustainable natural resource use in the project design.

Related Information

About Asian Development Bank (ADB)

- ADB was founded in 1966 and India is a founding member to it.
- The ADB has 67-member countries, including — 48 from the Asian region.
- ADB has been led conventionally by a Japanese governor.
- Top 5 shareholders in ADB are: Japan (15.6%), United States (15.6%), People's Republic of China (6.4%), India (6.3%) and Australia (5.8%)
- It **provides direct assistance to private enterprises of developing member countries** through equity investments and loans.

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Caspian Sea Breakthrough Treaty

Why in News?

Recently, five Caspian Sea States – Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan - signed a breakthrough agreement on Caspian Sea's legal status.

Background

- The 5 nations have tried to define the Caspian Sea's legal status since the collapse of Soviet Union in order to divide up the waters and its natural resources for new drillings and pipelines. Iran, Azerbaijan and Turkmenistan have contested the ownership of several oil and gas fields.
- According to an estimate by the US Energy Information Administration in 2013, the Caspian offshore reserves contain atleast 20 Billion Barrels of Oil and more than 240 trillion Cubic Feet of natural gas.
- These nations have already developed offshore oil and gas reserves that are located near enough to their coast.
- Projects in the northernmost waters- Kazakhstan's giant Kashagan field and Russia's Filanovsky and Korchagin deposits- are seen as sources of future oil-output growth for the countries.

Significance of the Treaty

- The treaty declares 15 Nautical Miles from the coastline as Sovereign waters and an Exclusive Economic Zone, with a further 10 nautical miles to be used for fishing and beyond this would be open waters.
- **Agreement included economic as well as security cooperation:** this would have enormous implications for the global energy market and addressing security issues as the Caspian Sea is situated near the zones of international terrorist activities. (Afghanistan and West Asia)
- The treaty ends a conflict over whether the Caspian is a sea or a lake, granting it a **special legal status** and clarifying the maritime boundaries of each surrounding country. The major concern is if it is a sea, it would become governed by international maritime law (UNCLOS) and outside powers would have access to these waters.
- It allows each member nation to lay pipelines with consent only from the neighbouring states affected, rather than from all Caspian Sea Nations. The development of seabed reserves will be regulated by separate deals between Caspian Nations, in line with international laws which essentially cements the current situation as countries such as Kazakhstan and Russia already have bilateral accords on joint projects.
- It might also remove a legal barrier to building a **Trans- Caspian gas pipeline** from Turkmenistan to Europe.
- It prevents the Caspian nations from opening their borders to third party aggressors such as the US and NATO or allowing any foreign military presence on Caspian waters.
- **Remaining Issues**

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- Delimitation of oil and gas rich Caspian Sea bed will require additional agreements between littoral nations.
- Russia is reluctant to allow Turkmenistan to pursue its proposed 300 Km gas pipeline to Azerbaijan which would open its huge cheap gas reserves to European Market at present dominated by Gazprom (Russian company).

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Representation Of The People (Amendment) Bill, 2017

Highlights of the Bill:

- The Bill proposes ***to allow non-resident Indians (NRIs) to emerge as a decisive force in the country's electoral politics on their own terms***.
- The amendment paves the way to remove an "unreasonable restriction" posed by Section 20A of the Representation of the People Act, which requires overseas electors to be physically present in their electoral constituencies to cast their votes.

What necessitated this move?

- Section 20A of the Act provides for registration and inclusion of overseas electors in the electoral rolls. The Registration of Electors Rules, 1960 provide for overseas electors to register themselves in the electoral rolls of their respective constituencies on the basis of self-attested copies of their passport and valid visa, and exercise their franchise in person on production of the original passport at the time of voting at the specified polling booth.
- Thus, the rules demand for the physical presence of overseas electors in their respective polling stations in India on the day of polling. This causes hardship to the overseas electors. This amendment proposes facilitating an external mode of voting, that is, voting by proxy, whereby such electors can exercise their franchise from their places of residence abroad.

Significance of this move:

If the Bill is passed, overseas voters can appoint a proxy to cast their votes on their behalf, subject to certain conditions to be laid down in the Conduct of Election Rules, 1961. This would considerably mitigate the difficulties presently faced by overseas electors in exercising their franchise.

What is voting by proxy?

- According to the provisions of 'Representation of the People Act (Amendment) Bill, 2017 overseas Indians, who are entitled to vote in India, can appoint a proxy voter to cast their votes on their behalf. Also, the overseas Indians would be allowed to use the option of proxy, which till now was only available to service personnel.

Drawbacks of the proxy voters:

- It threatens the very core of democracy as the special treatment violets the fact that there are many times more domestic migrants who also seek to have a voting right at their homes.
- The proxy voter may cast vote for the candidate who is not desired by oversea Indians.
- There can be no guarantee of NRI voters exercising their vote in a free and fair manner as there can be no check on coercion or inducement by the employers.
- There is no guarantee that votes would not be sold to the so called proxy.
- There is no fixed number of votes a proxy could cast in an election.

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Criminalization Of Politics

What to study?

- For Mains: Criminalization of politics- concerns, challenges and efforts to reform.
- ***Context:*** The Supreme Court has proposed to ***make political parties accountable for criminalising politics*** by welcoming in "crooks" who may later win elections on party ticket and grab power. The court is hearing a batch of petitions to ban persons charged with heinous criminal charges from contesting elections.

Suggestion made by the court:

- The Court may direct the Election Commission ***to insist that parties get new members to declare in an affidavit their criminal antecedents and publish them*** so that the "entire country knows how many criminals there are in a party."
- The court said the EC could ***de-register a party or withdraw its symbol if it refused to comply***.
- The suggestion was made by the court in a bid ***to prevent criminals from entering politics or later contesting elections*** to become parliamentarians, legislators and Ministers.

However, the centre has opposed this move suggesting the following reasons:

- A political party has a right to field its candidate. Mere charges of having committed a crime cannot be used to prevent a person from contesting elections. The suggestion made by the court amounts to prematurely disqualifying a candidate. Besides, the court is taking on itself a matter of the legislature.

Provisions in this regard:

- The court based its proposal on the following:
  - ***Article 324 and Section 29A of RPA:*** The power of the Election Commission to conduct an election and register/de-register political parties under Article 324 of the Constitution and Section 29A of the Representation of the People Act of 1951, respectively.
  - ***The Election Symbols (Reservation and Allotment) Order of 1968***. Section 29A requires a party to swear to uphold the principles of socialism, secularism, democracy, sovereignty, unity and integrity of India.

Criminals in Politics:

- Protecting the parliamentary system from criminalisation has been the intention of the law from the beginning.
- ***Section 8 of the Representation of the People (RP) Act, 1951*** disqualifies a person convicted with a sentence of two years or more from contesting elections. But those under trial continued to be eligible to contest elections. The ***Lily Thomas case (2013), however, ended this unfair advantage***.

Efforts by SC in this regard:

- The SC has repeatedly expressed concern about the purity of legislatures.
  - In 2002, it made it obligatory for all candidates to file an affidavit before the returning officer, disclosing criminal cases pending against them.
  - The famous order to introduce NOTA was intended to make political parties think before giving tickets to the tainted.
  - In its landmark judgment of

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March 2014, the SC accepted the urgent need for cleansing politics of criminalisation and directed all subordinate courts to decide on cases involving legislators within a year, or give reasons for not doing so to the chief justice of the high court.

The trend:

- According to the ADR's analysis of EC data, 187 MPs in the current Lok Sabha face criminal charges (that is, 34.4 per cent). Of them, 113 face serious criminal charges.
- The number has gone up from 162 (76 serious) charges in 2009 and 128 (58 serious) in 2004.

Main reasons for Criminalization:

- Corruption
- Vote bank.
- Lack of governance.

What is the way out?

- There are three possible options.
  - One, political parties should themselves refuse tickets to the tainted.
  - Two, the RP Act should be amended to debar persons against whom cases of a heinous nature are pending from contesting elections.
  - Three, fast-track courts should decide the cases of tainted legislators quickly.

Opposition to the proposal made by the Supreme Court:

- Far from denying tickets to criminals, all political parties seem to have been in competition to give them more and more tickets.
- They have been unitedly opposing the proposal to debar perpetrators of even heinous offences during pendency of trial on the grounds that false criminal cases may be filed by opponents. This concern is partly valid.

Is this concern justified?

- To counter the concern expressed, the proposal has three safeguards.
  - First, all criminal cases would not invite the ban — only heinous offences like murder, dacoity, rape, kidnapping or moral turpitude.
  - Second, the case should have been registered at least a year before the elections.
  - Third, the court must have framed the charges.

Suggested measure to curb criminalization of politics:

- Bringing greater transparency in campaign financing is going to make it less attractive for political parties to involve gangsters.
- The Election Commission of India (ECI) should have the power to audit the financial accounts of political parties, or political parties' finances should be brought under the right to information (RTI) law.
- Broader governance will have to improve for voters to reduce the reliance on criminal politicians.
- Fast-track courts are necessary because politicians are able to delay the judicial process and serve for decades before prosecution.
- The Election Commission must take adequate measures to break the nexus between the criminals and the politicians.
- The forms prescribed by the Election Commission for candidates disclosing their convictions, cases pending in courts and so on in their nomination papers is a step in the right direction if it applied properly.

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Restricted Area Permit (RAP) Regime

What to study?

- For Prelims: RAP- features, important Islands in Andaman and Nicobar.
- For Mains: Need for RAP.
- ***Context:*** The Union government has decided to exclude 29 inhabited Andaman & Nicobar Islands from the Restricted Area Permit (RAP) regime, subject to certain conditions, to boost tourism and overall development of Andaman & Nicobar Islands.

Key facts:

- The list of the islands permitted for foreigners visit includes East Island, North Andaman, Smith Island, Curfew Island, Stewart Island, Land Fall Island, Ayes Island, Middle Andaman, Long Island, Strait Island, North Passage, Baratang, South Andaman, Havelock, Neil Island, Flat Bay, Little Andaman, Chowra, Tillang Chong Island, Teressa, Katchal, Nancowry, Kamorta, Pulomilo, Great Nicobar, Little Nicobar, Narcondam Island and Interview Island.
- Foreigners will also be allowed to visit 11 uninhabited Islands, to be notified by Andaman and Nicobar Islands Administration, only for day visits.

Exceptions:

- Citizens of Afghanistan, China and Pakistan and foreign nationals having their origin in these countries would continue to require RAP to visit Andaman & Nicobar Islands. In such cases, RAP may be granted only after obtaining prior approval of the ministry of home affairs.
- For visiting Mayabunder and Diglipur, citizens of Myanmar will continue to require RAP which shall be issued only with the prior approval of the MHA.

What is Restricted Area Permit (RAP) regime?

- RAP regime was notified under the Foreigners (Restricted Areas) Order, 1963.
- Under it, foreign nationals are not normally allowed to visit protected or restricted area unless Government is satisfied that there are extra-ordinary reasons to justify their visit.
- Every foreigner, except citizen of Bhutan, who desires to enter and stay in protected or restricted area, is required to obtain special permit from competent authority having power to issue such permits to foreigner, seeking it.
- Citizens of Afghanistan, China and Pakistan and foreign nationals of Pakistani origin are exception and are not allowed to enter such areas.

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Homoeopathy Central Council (Amendment) Bill 2018

Key features of the Bill:

- ***Supersession of the Central Council:*** It amends the 1973 Act to provide for the supersession of the Central Council with effect from May 18, 2018. The Central Council will be reconstituted within one year from the date of its supersession. In the interim period, the central government will constitute a Board of Governors, which will exercise the powers of the Central Council.
- ***The Board of Governors will consist*** of up to seven members including: (i) persons of eminence in the field of homoeopathy education, and (ii) eminent administrators, appointed by the central government. The central government will select one of these members as the Chairperson of the Board. With regard to policy decisions, the directions of the central government will be final.
- ***Permission for existing homoeopathy colleges:*** It states that: (i) if any person has established a homoeopathy medical college, or (ii) if an established homoeopathy medical college has opened new courses or increased its admission capacity before the Ordinance was promulgated, it will have to seek permission from the central government within one year. If the person or homoeopathy medical college fails to seek such permission, then any medical qualification granted to a student from such medical college will not be recognised under the Act.

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Concessional Financing Scheme (CFS)

How CFS works?

1. Under the Scheme, MEA selects the specific projects keeping in view strategic interest of India and sends the same to Department of Economic Affairs (DEA).
2. The strategic importance of a project to deserve financing under this Scheme, is decided, on a case to case basis, by a Committee chaired by Secretary, DEA.
3. Once approved by the Committee, DEA issues a formal letter to EXIM Bank conveying approval for financing of the project under CFS.
4. The Scheme is presently being operated through the Export-Import Bank of India, which raises resources from the market to provide concessional finance.
5. Government of India (GoI) provides counter guarantee and interest equalization support of 2% to the EXIM Bank.
6. Under the Scheme, EXIM Bank extends credit at a rate not exceeding LIBOR (avg. of six months) + 100 bps. The repayment of the loan is guaranteed by the foreign govt.

Significance of the scheme:

- Prior to the introduction of CFS, Indian entities were not able to bid for large projects abroad since the cost of financing was very high for them and bidders from other countries such as China, Japan, Europe and US were able to provide credit at superior terms, i.e., lower interest rate and longer tenures which works to the advantage of bidders from those countries.
- Also, by having projects of strategic interest to India executed by Indian entities, the CFS enables India to generate substantial backward linkage induced jobs, demand for material and machinery in India and also a lot of goodwill for India.

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India Becomes President Of AIBD

Why in News?

Recently, India has been elected as the President of the Asia-Pacific Institute for Broadcasting Development (AIBD) for a period of two years.

More on News

- President status will help India in leveraging itself as the broadcasting and media hub in Asia Pacific Region.
- India got the presidency of the organisation for the first time by defeating Iran in the election.

About Asia-Pacific Institute for Broadcasting Development (AIBD)

- It is a regional inter-governmental organisation servicing countries of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) in the field of electronic media development.
- It was established in 1977 under the auspices of UNESCO and the **Asia-Pacific Broadcasting Union (ABU)** is a founding organisation of the Institute and is a non-voting member of the General Conference.
- It is hosted by Malaysia and its secretariat is located in Kuala Lampur.
- The International Telecommunication Union (ITU) and United Nations Development Programme (UNDP), are also **founding organisations of the Institute**.
- Its function is to achieve a vibrant and cohesive electronic media environment in the Asia-Pacific region through policy and mobilizing the intellectual and technological resources available within the national broadcasting organizations...

Related Information

- **Asia-Pacific Broadcasting Union (ABU)**
  - It was established in 1964 as a non-profit, non- governmental, non-political, professional association.
  - ABU promotes the collective interests of television and radio broadcasters as well as key industry players and facilitate regional and international media co-operation.
- **International Telecommunication Union**
  - **It is the United Nations specialized agency for information and communication technologies – ICTs.**
  - It allocates global radio spectrum and satellite orbits.
  - It develops the technical standards that ensure networks and technologies seamlessly interconnect.

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Sweden's Feminist Foreign Policy Manual

Why in news?

Sweden recently launched foreign policy manual.

More on News

- In December 2014, Sweden became the first country to adopt a feminist foreign policy. Led since its inception in 2014, its goals include the promotion of economic emancipation, fighting sexual violence and improving women's political participation.
- As an example, In 2015, Sweden's diplomatic ties with Riyadh were frozen after the Swedish Foreign Minister called Saudi Arabia a "dictatorship", denouncing its treatment of women in particular in a way that other western diplomats might have avoided while dealing with the oil-rich state.
- The manual stated that while gender equality was "an object in itself," it was "essential" in achieving more general government objectives, like peace, security and sustainable development.

What is Feminist Foreign Policy?

- It is a course of action towards those outside national boundaries that is guided by a commitment to gender equality. It takes a step outside the black box approach of traditional foreign policy thinking and its focus on military force, violence, and domination by offering an alternate and intersectional rethinking of security from the viewpoint of the most marginalised.
- Traditional gender stereotypes exclude women from power or restrict them to governance of "soft" areas. These stereotypes associate violence with men and portray it as an appropriate tool for solving conflicts and maintaining dominance. Feminist foreign policy seeks to counter these value preferences and stereotypes.

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ONE DISTRICT ONE PRODUCT (EK ZILA – EK UT PADAN) SCHEME

- ***Context:*** Uttar Pradesh government had recently organized 'One District One Product' Summit ***to promote traditional industries in every district of the state***.
- The ODOP Summit is stated to be the first of its kind in the country and is expected to give a big boost to the MSME and handicraft in the state.
- The summit, which aims to give boost to micro, small and medium enterprises (MSME), will be a corollary of the UP Investors Summit held in the state capital in February this year, followed by the groundbreaking ceremony for the launch of 81 projects in July.

About ODOP:

- ODOP is aimed at giving a major push to traditional industries synonymous with the respective districts of the state.
- The objective of the ODOP is to optimise production, productivity and income, preservation and development of local crafts, promotion of art, improvement in product quality and skill development.
- Under this, one product indigenous to every district would be showcased at the three-day UP Diwas event. This will boost economic development of the state, and also help in generation of five lakh new jobs annually.

Background:

- ODOP is basically a Japanese business development concept, which gained prominence in 1979. It is aimed at promoting a competitive and staple product from a specific area to push sales and improve the standard of living of the local population. Over time, it has been replicated in other Asian countries as well.

Facts for Prelims:

UP is uniquely famous for product-specific traditional industrial hubs across 75 districts, including Varanasi (Banarasi silk sari), Bhadohi (carpet), Lucknow (chikan), Kanpur (leather goods), Agra (leather footwear), Aligarh (locks), Moradabad (brassware), Meerut (sports goods) and Saharanpur (wooden products).

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Swadesh Darshan Scheme

- ***Context:*** First project under the Swadesh Darshan Scheme the ***'North East Circuit: Imphal & Khongjom'*** in Manipur has been inaugurated.

'North East Circuit: Imphal & Khongjom':

- The project covers two sites i.e. Kangla Fort and Khongjom.
- Kangla Fort is one of the most important historic and archaeological site of Manipur located in the heart of the Imphal city. It served as the seat of Manipur's power till 1891. Kangla has a special place in the hearts and minds of the people of Manipur.
- The old Govindajee Temple, outer and inner moat and other relics are perfect reflections of the rich art and architectural heritage of Manipur.

Features of Swadesh Darshan Scheme:

- The scheme is 100% centrally funded for the project components undertaken for public funding.
- To leverage the voluntary funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.
- Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by PMC (Programme Management Consultant).
- A National Steering Committee (NSC) will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.
- A Mission Directorate headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.

PMC will be a national level consultant to be appointed by the Mission Directorate.

About Swadesh Darshan Scheme:

The Tourism Ministry had launched 'Swadesh Darshan' scheme with an objective ***to develop theme-based tourist circuits in the country***. These tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner.

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Niti Aayog Launches "Pitch To Move"

- ***Context: NITI Aayog has launched "Pitch to MOVE"*** – a mobility pitch competition that aims to provide budding entrepreneurs of India a unique opportunity to pitch their business ideas to a distinguished jury.

About "Pitch to MOVE":

- "Pitch to MOVE" is organised by NITI Aayog in collaboration with Invest India and Society of Indian Automobile Manufacturers (SIAM).
- **Aim**: The competition aims to identify and reward the start-ups offering innovative solutions for shared, connected, and environment friendly mobility. It also aims to incentivise the startups, which will help the Government realize its vision of Shared, Connected, Intermodal and Environment Friendly Mobility for India. The objective is to harness the latest disruption for generating employment and growth in our country.
- The Startups can be from the domain of Public Mobility, Electric Vehicles, Shared Transport, Last Mile Connectivity, Passenger Transportation, Battery Technology, Automotive IoT, Freight & Logistics, Powertrain/Drivetrain, Experiential, Travel, Mobility Infrastructure and Automotive Electronics etc.

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Health Policies To Cover Mental Illness

- ***Context:*** Insurance regulator IRDAI has issued a circular directing insurers to cover mental illness, which has reached serious proportions in the country.

What's the issue?

- The Mental Healthcare Act, 2017 — which came into force from May 29 — has made it mandatory to provide "for medical insurance for treatment of mental illness on the same basis as is available for treatment of physical illness".
- But to date, none of India's 33 insurers has introduced a product that covers ailments such as depression, schizophrenia, and bipolar disorder, even though such covers are commonplace in many countries.

Significance of this step:

- The change has been long overdue. This is being seen as a progressive step. This will ensure a life of dignity to those who have mental health issues.
- It will create awareness, acceptance, and inclusion of mental illness as any other physical ailment. It will 'normalise' diagnoses, by reducing associated myths and stigma.

Present scenario:

- Mental health conditions have always been in the list of exclusions of health insurance policies. The only exceptions to this have been the coverage of development conditions such as autism and Down's syndrome by the National Health Insurance Scheme, and a few private schemes like Star Health Insurance's cover for autistic children.

What is mental illness?

- ***As per the Mental Healthcare Act***, mental illness means a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgement, behaviour, capacity to recognise reality or ability to meet the ordinary demands of life.
- It also includes mental conditions associated with the abuse of alcohol and drugs, but does not include mental retardation which is a condition of arrested or incomplete development of mind of a person.
- The Act further states that every person with mental illness will be treated as equal to persons with physical illness when it comes to healthcare, including health insurance.

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BRUS OF MIZORAM

- ***Context:*** The Union Home Ministry has agreed to relax conditions laid down in the 'four-corner agreement' signed with Bru migrants for their repatriation from Tripura to Mizoram.

The deal:

- In a major breakthrough on repatriation laced Bru persons from Mizoram, an agreement was signed by Government of India, Governments of Mizoram and Tripura and Mizoram Bru Displaced People's Forum (MBDPF) in July 2018.
- As per the agreement, the central government will provide ***financial assistance*** for rehabilitation of Bru community members in Mizoram and address their issues of security, education, livelihood, etc. in consultation with the governments of Mizoram and Tripura.
- According to the agreement, ***the Mizoram government would ensure security*** for all repatriated refugees who were identified and verified as per the 1997 electoral rolls of Mizoram.
- ***The agreement also provides for free ration*** for two years and a monthly assistance of Rs 5,000 for each family.

New changes:

- According to the initial agreement, the cash assistance was to be provided only after three years of uninterrupted stay in Mizoram. As per the latest changes, for those (Brus) who are willing to return to Mizoram, the government might relax the period of stay for cash assistance of Rs 4 lakh from three years to two or even one and a half years. Refugees may also be allowed to withdraw 90% of the Rs 4 lakh assistance as bank loan immediately after their return.
- The Centre may also dilute the conditions in place for financial assistance. According to the original agreement, a house building assistance of Rs 1.5 lakh was to be disbursed in three instalments. This could now be relaxed further, with those Bru refugees building a house on their return to Mizoram being allowed to take the Rs 1.5 lakh assistance in a single installment or two.

What's the issue?

- A bout of ethnic violence forced thousands of people from the Bru tribe to leave their homes in Mizoram. As many as 32,876 people belonging to 5,407 families are living in the refugee camps in the Jampui Hills of Tripura.
    - The displaced Bru people from Mizoram have been living in various camps in Tripura since 1997. In 1997, the murder of a Mizo forest guard at the Dampa Tiger Reserve in Mizoram's Mamit district allegedly by Bru militants led to a violent backlash against the community, forcing several thousand people to flee to neighbouring Tripura.
    - The Bru militancy was a reactionary movement against Mizo nationalist groups who had demanded in the mid-1990s that the Brus be left out of the state's electoral rolls, contending that the tribe was not indigenous to Mizoram.

Who are Brus?

The Brus, also referred to as the Reangs, are spread across the northeastern states of Tripura, Assam, Manipur, and Mizoram.

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Strategic Partnership (SP) Model

- ***Context: The Defence Acquisition Council (DAC)***, in a landmark decision, has approved procurement of 111 Utility Helicopters for the Indian Navy at a cost of over Rs. 21,000 crores.
- This is the first project under the MoD's prestigious ***Strategic Partnership (SP) Model*** that aims at providing significant fillip to the Government's 'Make in India' programme.

What is Strategic Partnership (SP) model?

- The strategic partner model is intended to enhance competition, increase efficiencies, facilitate faster and more significant absorption of technology, create a tiered industrial ecosystem, ensure development of a wider skill base, trigger innovation and enable participation in global value chains as well as promote exports.
- Under the model, the government intends to boost private sector participation and create domestic expertise in four key areas, namely, fighter aircraft, helicopters, submarines, and armoured vehicles and main battle tanks.
- One company would be selected for each area based on its competence, which would then tie up with the foreign Original Equipment Manufacturer selected through the procurement process, to build the platform in India with significant technology transfer.

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 – estimated to be worth over two lakh crore rupees in the initial phase of execution ¬– which were hitherto reserved for the DPSUs and OFs.
- ***Bridging the trust gap:*** At the same time, the 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.
- The model has a long-term vision of promoting India as ***a manufacturing hub for defence equipment*** thus enhancing self-sufficiency and establishing an industrial and R&D ecosystem, capable of meeting the future requirements of the Armed Forces.

Concerns:

- Despite potential benefits, there are two concerns which need to be addressed to make SPs contribute in a meaningful and time-bound manner.
- The first and foremost concern is the lack of institutional capacity and ability to guide the new process to its logical conclusion.
- There is also a concern regarding the long-term viability of SPs largely due to the privileged position enjoyed by public sector entities.

Way ahead:

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Time and again, the MoD has deviated from its own promise of fair play in award of contracts and handed over large orders to DPSUs and OFs on nomination. It would be futile to expect SPs to make major investments if the government does not provide a level-playing filed to the private sector.

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Odisha To Come Up With Single Revenue Code

- ***Context:*** The Odisha government has proposed to come up with ***a single revenue act by merging various revenue laws*** enacted at different point in times.
- In this regard, the state government has prepared the draft ***'Odisha Land and Revenue Code'*** by taking into consideration the Odisha Survey and Settlement Act, 1958, the Odisha Special Survey and the Settlement Act 2012, the Odisha Government Land Settlement Act, 1962, the Odisha Prevention of Land Encroachment Act, 1972, the Odisha Land Reforms Act, 1960, the Odisha Consolidation of Holdings and Prevention of Fragmentation of Land Act 1972 and the Odisha Estates Abolition Act, 1951.

Need for a uniform revenue code:

- The need for a single Revenue Code arises out of the fact that there are many revenue Acts in vogue in Odisha governing the land revenue administration which were enacted years back and are unable to meet the changing needs.
- ***Existence of so many revenue Acts and Rules often create confusion*** among the field-level revenue functionaries in interpretation of such laws which ultimately leads to delay in disposal of cases and sufferings for the public.
- ***The main purpose is to end the numerous laws*** and introduction of a single code having simplified procedures and enabling provisions for speedy disposal of the revenue cases which will benefit the public.

What next?

The code will be published inviting suggestions and objections from all sections and after scrutiny of feedbacks, necessary changes will be effected and steps will be taken for enactment of the code.

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Anti-Lynching Measures

What to study?

- For Prelims: Name of the panel.
- For Mains: Need for anti- lynching law, concerns and challenges associated with lynching.
- ***Context: A panel headed by Union Home Secretary Rajiv Gauba***, which deliberated on measures to check incidents of lynching, submitted its report to a Group of Ministers headed by Home Minister Rajnath Singh.

The proposal:

- As per the suggestion made, media platforms — Facebook, WhatsApp, YouTube and Twitter — would be made accountable for not blocking such malicious posts/videos when brought to their notice and "FIR could be lodged against their country heads" for non-compliance of government orders and they could be prosecuted under law.

Background:

- From May-June, more than 20 people were lynched based on fake posts or rumours floating on various social media platforms. Last month, the Home Ministry issued advisories to States and Union Territories following Supreme Court's directives to check incidents of lynching.
- The Centre asked them to ***appoint an officer in each district at the level of Superintendent of Police, set up a special task force to gather intelligence, and closely monitor social media contents*** to prevent mob attacks on suspicion of being child-lifters or cattle smugglers.

Need for coordination between the centre and states on this matter:

- The Union Government is highly concerned about the incidents of mob violence in some parts of the country. Government has already condemned such incidents and made its stand clear in the Parliament that, ***as per the Constitutional scheme, 'Police' and 'Public Order' are State subjects***.
- ***State Governments are responsible for controlling crime, maintaining law and order, and protecting the life and property of the citizens***. They are empowered to enact and enforce laws to curb crime in their jurisdiction.

Recent directions of the Supreme Court on the issue of mob violence:

- Condemning mob lynching incidents across the country and the Supreme Court had ***urged the Parliament to enact a new law to deal with the crime***. The court passed a slew of directions in this regard to deal with the mob lynching. Here are the directions:
- There shall be ***a "separate offence"*** for lynching and the trial courts must ordinarily award maximum sentence upon conviction of the accused person to set a stern example in cases of mob violence.
- The state governments will have ***to designate a senior police officer in each district*** for taking measures to prevent incidents of mob violence and lynching.
- ***The state governments need to identify districts, sub-divisions and villages*** where instances of lynching and mob violence have been reported in the recent past.
- ***The nodal officers shall bring to the notice of the DGP about any inter-district co-ordination issues*** for devising a strategy to tackle lynching and mob violence related issues.
- ***Every police officer shall ensure to disperse the mob*** that has a tendency to cause violence in the disguise of

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vigilantism or otherwise.

- Central and the state governments shall broadcast on radio, television and other media platforms about the serious consequences of mob lynching and mob violence.
- Despite the measures taken by the State Police, if it comes to the notice of the local police that an incident of lynching or mob violence has taken place, ***the jurisdictional police station shall immediately lodge an FIR***.
- ***The State Governments shall prepare a lynching/mob violence victim compensation scheme*** in the light of the provisions of Section 357A of CrPC within one month from the date of this judgment.
- If a police officer or an officer of the district administration fails to fulfill his duty, ***it will be considered an act of deliberate negligence***.
- ***At present there is no law that criminalises mob killings***. ***The Indian Penal Code*** has provisions for unlawful assembly, rioting, and murder but nothing that takes cognisance of a group of people coming together to kill (a lynch mob).
- ***Under Section 223 (a) of the Criminal Procedure Code (CrPC)***, to prosecute together two or more people accused of the same offence committed in the course of the "same transaction". But the provision falls far short of an adequate legal framework for prosecuting lynch mobs.

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World Breastfeeding Week (August 1 To 7)

What to study?

- For Prelims: World Breastfeeding Week, MAA programme.
- For Mains: Significance of Breastfeeding.
- ***Context:*** August 1 to 7 every year is observed as World Breastfeeding Week.
- ***Organized by:*** World Alliance for Breastfeeding Action (WABA), WHO and UNICEF.
- ***Goal:*** To promote exclusive breastfeeding for the first six months of life which yields tremendous health benefits, providing critical nutrients, protection from deadly diseases such as pneumonia and fostering growth and development.

Significance of breastfeeding:

- Breastfeeding is an important efficient and cost- effective intervention promoting child survival and health.
- Breastfeeding within an hour of birth could prevent 20% of the newborn deaths.
- Infants who are not breastfed are 15 times more likely to die from pnuemonia and 11 times more likely to die from diarrhoea than children who are exclusively breastfed, which are two leading causes of death in children under-five years of age.
- In addition, children who were not breastfed are at increased risk for diabetes, obesity, allergies, asthma, childhood leukemia, sudden infant death syndrome etc. Apart from mortality and morbidity benefits, breastfeeding also has tremendous impact on improved IQ.

MAA programme:

- To intensify the efforts further for promotion of breastfeeding, the Health Ministry has initiated a nationwide programme called ***"MAA- Mother's Absolute Affection" to bring undiluted focus on promotion of breastfeeding and provision of services towards supporting breastfeeding***, along with ongoing efforts of routine health systems.
  - ***The key components of the MAA programme*** are awareness generation, promotion of breastfeeding & inter personal counselling at community level, skilled support for breastfeeding at delivery points and monitoring and Award/ recognition of health facility.
  - Under this programme, ***ASHA has been incentivized*** for reaching out to pregnant and lactating mothers and provide information on benefits and techniques of successful breastfeeding during interpersonal communication. ANMs at all sub-centres and health personnel at all delivery points are being trained for providing skilled support to mothers referred with issues related to breastfeeding.
  - Under NHM, funding support has been recommended for all States and UTs for successful implementation of the MAA programme.

UNICEF report on early initiation of breastfeeding across the world:

- A new report released by UNICEF and the World Health Organisation (WHO) has ranked Sri Lanka at the top of the list of countries with early initiation of breastfeeding.
  - ***India ranks 56th*** among the 76 countries that were analysed.
  - Countries like Kazakhsthan, Rwanda, Bhutan and Uruguay have fared much better than India.

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- Azerbaijan, Pakistan and Montenegro are at the bottom.
- Only two in five newborns are breastfed within the first hour of life across the world.

About WABA:

- **World Alliance for Breastfeeding Action (WABA)** is a global network of individuals and organisations concerned with the protection, promotion and support of breastfeeding worldwide based on the Innocenti Declarations, the Ten Links for Nurturing the Future and the WHO/UNICEF Global Strategy for Infant and Young Child Feeding.
- WABA is in consultative status with UNICEF and an NGO in Special Consultative Status with the Economic and Social Council of the United Nations (ECOSOC).

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Vidyalakshmi Portal

What to study?

- For Prelims and Mains: Significance and key features of the portal.
- ***Context:*** As part of its digital initiative, Karnataka Bank has integrated its education loan scheme/s with Vidya Lakshmi Portal of Government of India.

About Vidyalakshmi Portal:

- Vidya Lakshmi is a first of its kind portal ***for students seeking Education Loan***.
- This portal has been developed under the guidance of Department of Financial Services, (Ministry of Finance), Department of Higher Education (Ministry of Human Resource Development) and Indian Banks Association (IBA).
- The portal has been developed and being maintained by NSDL e-Governance Infrastructure Limited.
- Students can view, apply and track the education loan applications to banks anytime, anywhere by accessing the portal. The portal also provides linkages to National Scholarship Portal.

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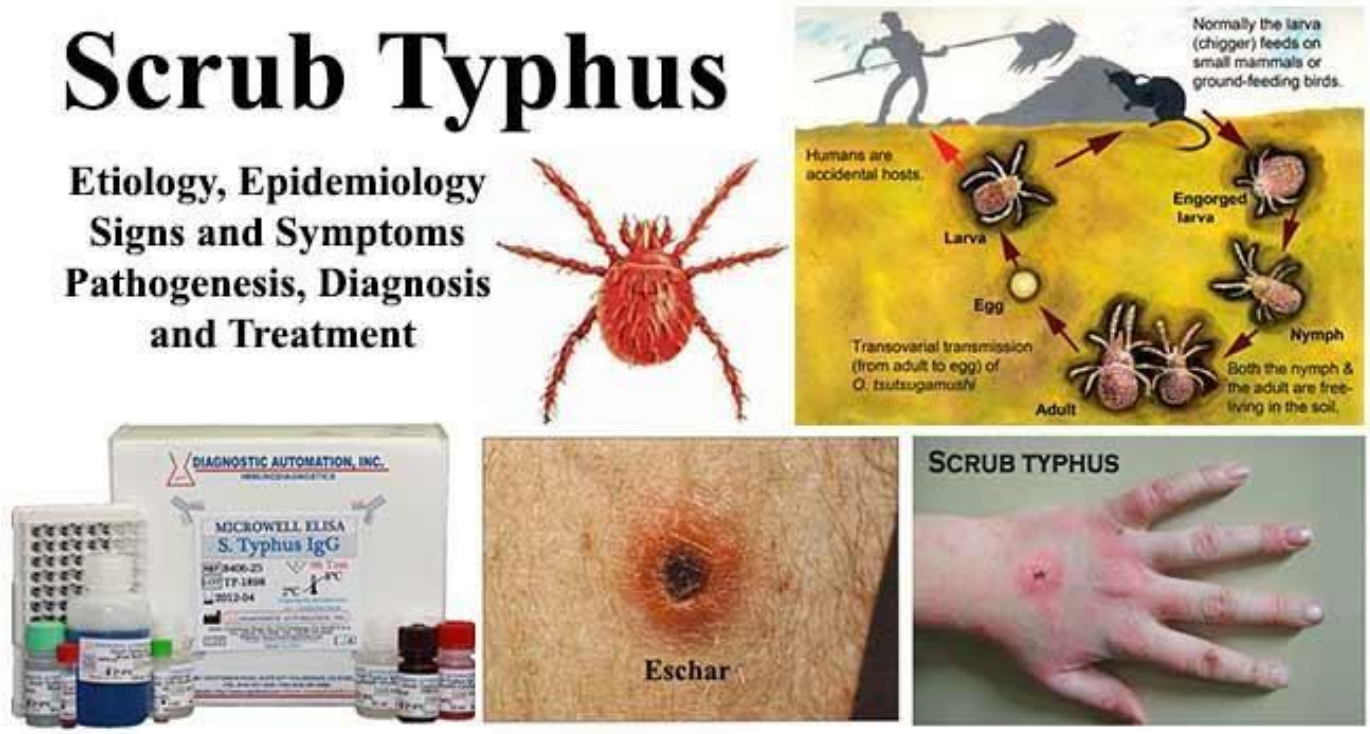
Scrub Typhus



Context: As per recent findings by a team of experts, ***Scrub typhus is key encephalitis cause in eastern U.P***. This finding is important, given that the mite-borne disease can be treated easily if doctors look for it early.

What is Scrub Typhus?

Scrub typhus is ***an infectious disease*** with symptoms similar to any viral fever. However, it is not caused by a virus, but by a parasite called Orientia tsutsugamushi, which is transmitted by the bite of infected mite larvae in soil containing scrub vegetation.

- The disease is also known as bush typhus because the mites (Leptotrombidium deliense, commonly known as trombiculid mite) that cause it reside in vegetation predominantly comprising small shrubs.
- The disease is more common during the wet season when the mites lay eggs. Incubation period (time between bite and beginning of symptoms) is 10 – 14 days.

Transmission:

- It is usually transmitted by mites that are found in the shrubs in hilly areas. It can also be transmitted by lice, ticks and fleas.

Causes of Scrub Typhus:

- The species which transmits Scrub typhus are found in areas which have heavy scrub vegetation.
- Orientia tsutsugamushi gets transmitted through the bite of trombiculid mites. These mites feed on rural and forest rodents, including voles, rats and field mice.
- A person develops infection after the bite of the mite larva. When a person gets bitten by this mite, it leaves a characteristic black colored eschar which helps with the diagnosis.

Symptoms:

- The symptoms of scrub typhus are similar to chikungunya. At onset there

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is fever, headache, bodyache, cough and gastrointestinal symptoms. Patients with a mild infection may recover without any other symptoms. However, roughly every second patient develops a visible black scab at the point of the bite, with a swelling of the lymph nodes.

- In about a third of cases, a delayed onset of rashes occurs 4-6 days into the disease. Severe cases typically include encephalitis and interstitial pneumonia due to vascular injury. The fatality rate is 7%.
- Other symptoms include high fever, skin rashes, respiratory problems, red eyes and unconsciousness. Some of the patients also develop joint pains, which is characteristic of chikungunya.
- It may progress on to respiratory distress, pneumonitis (inflammation of lung tissue), and multi-organ failure.

What needs to be done?

- If detected in time, the disease can be cured using antibiotics. Antibiotics like Doxycycline or Azithromycin are commonly used to treat the disease. Dengue and chikungunya are self-limiting viral diseases that do not have any treatment, apart from management of symptoms. In scrub typhus, however, administering antibiotics on time can save lives.
- But, getting an early diagnosis is a problem in Himachal, where Indira Gandhi Medical College and Hospital (IGMCH) is the only scrub typhus testing and treating centre.

Preventive measures:

- Limit the spread of rodents.
- Pets should be cleaned regularly. Skin should be properly covered while visiting jungle or area with lot of shrubs.

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Biju Swasthya Kalyan Yojana

Context: Odisha government has launched Biju Swasthya Kalyan Yojana, a health for all scheme, on the occasion of the 72nd Independence Day.

Highlights of the scheme:

- Will provide Rs. 5 lakh per family per annum for all Secondary and Tertiary Cashless Health Care Assistance. Women beneficiaries can get health cover upto Rs. 7 lakh.
- This scheme will benefit 3.5 crore people (70 lakh families) at any govt. and private empanelled hospitals.
- All beneficiaries currently enrolled under the Rashtriya Swasthya Bima Yojana (RSBY), as well as other low-income families, are covered under the BSKY.

Challenges in implementation:

- ***Trust model:*** Odisha purposes to form a Trust to implement the scheme, which will reimburse the hospitalisation cost and will not pay premiums to insurance companies. Though the Trust model saves money, the major constraints are weak in-house capacity, poor governance structure and susceptibility to outside interference.
- ***Governance structure:*** Another uphill task for the Trust is to improve the governance structure. Riddled with weak IT system and poor administration, the uptake of the ongoing health insurance programmes is far from satisfactory.
- ***Procedural challenges:*** The Odisha State Treatment Fund has several procedural challenges, which, increases the predicament of patients. The same issues will have a major bearing on the BKSY implementation, unless the Trust carefully introduces measures to lessen these problems.
- ***The financial implication*** of such a humongous scheme needs deliberation. The current resource absorption for RSBY, BKKY and OSTF is not hefty. The claims ratio for RSBY is 65-68 per cent. This is unlikely to rise significantly, unless architectural correction is made.

The most important question is: Can BSKY improve the persistent health financing problem?

- Currently, Odisha spends around 4.5% GDP on healthcare, of which only 1.05% is by the government. Out of pocket (OOP) expenditure constitutes 76% of total health expenditure, which is unexpectedly high. On the contrary, the utilisation from the public healthcare facilities is quite high, the proportion being 72.55% for outpatient visits.
- Furthermore, a significant proportion of OOP is due to outpatient care, mainly due to drugs and diagnostics services (58% and 12%, respectively). Dubbed as a step towards achieving Universal Health Coverage (UHC), BSKY may provide breathing space to millions of households burdened by costly health care.
- However, a large part of OOP, which occurs due to outpatient visits (71%), will not be alleviated by any insurance mechanism, as it is meant only for hospitalisation.

Way ahead:

For effective implementation of the scheme, the state needs to design the Trust structure by hiring experts to suggest packages, costs and criteria for empanelment of private hospitals.

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Bhoomi Rashi And PFMS Linkage

Context: The government has proposed to ***integrate Bhoomi Rashi with Public Financial Management System (PFMS)***. Integration of Public Financial Management System (PFMS) with Bhoomi Rashi is one of the key functionalities to facilitate payment related to compensation for land acquisition to all the beneficiaries directly through the Bhoomi Rashi system.

What is Bhoomi Rashi?

- Bhoomi Rashi, the portal developed by MoRTH and NIC, comprises the entire revenue data of the country, right down to 6.4 lakh villages.
- The entire process flow, from submission of draft notification by the State Government to its approval by the Hon. Minister of State for RT&H and publication in e-Gazette, is online.
- The portal, created for expediting the process of publication of notifications for LA, is now being fully utilised for issuing the notifications.
- Bhoomi Rashi portal has been instrumental in reducing the time taken for approval and publication of notifications pertaining to land acquisition.

About PFMS:

- The Public Financial Management System (PFMS) is an end-to- end solution for processing payments, tracking, monitoring, accounting, reconciliation and reporting.
  - It is ***administered by the Department of Expenditure***.
  - It is ***implemented by the Controller General of Accounts***.

Functions:

- It provides scheme managers a unified platform for tracking releases and monitoring their last mile utilisation.
- It provides platform for efficient management of funds through tracking of funds and real time reporting of expenditure and receipts through treasury and bank interface.
- The line ministries/departments utilise this platform to monitor the utilisation of funds provided to the implementing agencies and state governments.
- PFMS is also used for DBT payments under MGNREGA and other notified schemes of the Government of India.

Significance of PFMS:

- Introduction of the PFMS resulted in effectiveness and economy in public finance management through better cash management for government transparency in public expenditure and real-time information on resource availability and utilisation across schemes.
- It also resulted in improved programme administration and management, reduction of float in the system, direct payment to beneficiaries and greater transparency and accountability in the use of public funds.

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PARIVESH

- ***What is it?*** It is an environmental single window hub for Environment, Forest, Wildlife and CRZ clearances launched recently. This Single-Window Integrated Environmental Management System has been developed in pursuance of the spirit of 'Digital India' initiated by the Prime Minister and capturing the essence of Minimum Government and Maximum Governance.
- ***PARIVESH:*** Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental Single-window Hub.

Key features:

- "PARIVESH" is a workflow based application, based on the concept of web architecture. It has been rolled out for online submission, monitoring and management of proposals submitted by Project Proponents to the Ministry of Environment, Forest and Climate Change (MOEFCC), as well as to the State Level Environmental Impact Assessment Authorities (SEIAA).
- It seeks to give various types of clearances (e.g. Environment, Forest, Wildlife and Coastal Regulation Zone Clearances) from Central, State and district-level authorities.
- The system has been designed, developed and hosted by the Ministry of Environment, Forest and Climate Change, with technical support from National Informatics Centre, (NIC).
- It provides single registration and single sign-in for all types of clearances (i.e. Environment, Forest, Wildlife and CRZ), unique-ID for all types of clearances required for a particular project and a single Window interface for the proponent to submit applications for getting all types of clearances (i.e. Environment, Forests, Wildlife and CRZ clearances).

Significance and benefits of the platform:

- PARIVESH offers a framework to generate economic growth and strengthens Sustainable Development through e- Governance. With automatic highlighting of non-compliance by the system, PARIVESH helps in improving the overall performance and efficiency of the whole appraisal process.
- It also helps the processing authorities, as it has a Single Window System for Central, State and District level clearances.
- The facility of Geographic Information System (GIS) interface for the Appraisal Committee will help them in analyzing the proposal efficiently, automatic alerts (via SMS and emails) at important stages to the concerned officers, committee members and higher authorities to check the delays, if any.
- It also enables project proponents, citizens to view, track and interact with scrutiny officers, generates online clearance letters, online mailers and alerts to state functionaries in case of delays beyond stipulated time for processing of applications.

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NPCI LAUNCHES UPI 2.0

- ***Context:*** National Payments Corporation of India (NPCI) has launched UPI 2.0, an upgraded and renewed version of Unified Payments Interface (UPI).

New features:

- The latest edition has four new features to make it attractive and safer for users. These new features will allow users to link their overdraft account to UPI, creation of one-time mandates and pre-authorisation of transactions for payment at later date and checking the invoice sent by merchant prior to making payment.

The UPI ecosystem functions with three key players:

- Payment service providers (PSPs) to provide the interface to the payer and the payee. Unlike wallets, the payer and the payee can use two different PSPs.
- Banks to provide the underlying accounts. In some cases, the bank and the PSP may be the same.
- NPCI to act as the central switch by ensuring VPA resolution, effecting credit and debit transactions through IMPS.

What exactly is UPI?

- The Unified Payments Interface (UPI) is ***a system developed by the NPCI and the RBI to aid instant transfer of money using a cashless system***.
- Using UPI services, one just requires a smartphone and a banking app to send and receive money instantly or to pay a merchant for retail purchase.
- In the long run, UPI is likely to replace the current NEFT, RTGS, and IMPS systems as they exist today.

How does it work?

- UPI, built on IMPS, allows a payment directly and immediately from bank account. There is no need to pre- load money in wallets.
- It allows payments to different merchants without the hassle of typing one's card details or net-banking password.

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CJI Launches Applications To Facilitate Litigants And Lawyers

Context: Three new applications have been launched for the benefit of the litigants and lawyers.

- ***These applications are:*** e-Filing, e-Pay, and National Service and Tracking of Electronic Processes (NSTEP).

e-Filing application:

- The application is meant for online registration of lawyers and litigants. Through the application, one can file cases from any part of India to any court on registration.
- Portfolio management of cases of litigants and lawyers is provided on the portal and one can get updates from time to time about filed cases, cases under objection or rejected cases.

Significance:

- The e-Filing application will facilitate efficient administration of Judicial System by easing pressure on filing counters and will speed up work flow processing. Data entry will be more accurate which will help to take data driven decisions in court administration.
- It will start building digital repositories which will auto generate paper books and can be quickly transmitted to Higher Courts which will reduce delays. It will also help reduce touch point of litigants will also result in more productivity of staff members and will help send documents for service to other locations or mail addresses which will be relatively easy.

e-Pay application:

- It is a unified portal wherein facility to pay online court fees is provided. The platform is user friendly which can be used with very little self help.
- At present, the facility will be made operational in two states – Maharashtra and Haryana.

Significance:

- The OTP authentication provides secure way to financial transactions and one can get instant acknowledgement through SMS and print receipt.
- The application is beneficial for the judicial administration since verification of court fees becomes more easy, secure and transparent and accurate figures of court fees collected can be generated for any court, district or State.

National Service and Tracking of Electronic Processes (NSTEP):

- It is launched as part of the eCourts Project. It is a transparent and secure system for transmission of process from one location to another and will address delays in process.
- It offers facility to send electronic processes directly to registered mail of the addressee by secured mechanism; enables uploading of documents associated with process; and facilities like tracking GPS, obtaining photograph and on screen signature.

Significance:

- NSTEP will lead to secured auto generation of processes with unique QR Code through CIS, publishing processes on portal and transmission of processes to other court complexes.
- The service will empower litigants with real time information relating to status of service of process and will entail litigants to take immediate follow up action which will reduce delays.

About the e- courts project:

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- ***What is it?*** The eCourts Mission Mode Project (Phase I 2010-15; Phase II 2015-19) is a national eGovernance project for ICT enablement of district and subordinate courts of the country.
- ***Implementation:*** It is being implemented by the Government of India with a total outlay of 1670 crores (Phase II).
- ***The major objectives of the Project*** are to make whole judicial system ICT enabled by putting in place adequate and modern hardware and connectivity; automation of workflow management in all courts; electronic movement of records from taluka/trial to appeal courts; installation of video conferencing (VC) facility and recording of witness through Video Conferencing.
- ***Specific targets set under the Project include:*** computerization of all the courts (around 20400) and DLSA and TLSC; WAN and cloud connectivity in 3500 court complexes; full Installation and use of Video Conferencing facility at 3000 Court Complexes and 1150 prisons; charting out key identified citizen services like electronic filing, daily orders, delivery of decrees, online case status in all the district courts etc.

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Report On "Worngful Prosecution

- ***Context:*** The Law Commission of India has submitted its Report titled ***'Wrongful Prosecution (Miscarriage of Justice): Legal Remedies'*** to the Government of India.

Background:

- The High Court of Delhi in the ***case of Babloo Chauhan*** had expressed grave concern about the state of innocent persons being wrongfully prosecuted, incarcerated for crimes that they did not commit. The Court highlighted the urgent need for a legislative framework for provided relief and rehabilitation to victims of wrongful prosecution, incarceration and asked the Law Commission to undertake a comprehensive examination of the aforesaid issued and make a recommendation thereon to the Government of India.

What is wrongful prosecution?

- Internationally, the issue of wrongful prosecution, incarceration, and conviction of innocent persons is identified as 'miscarriage of justice' that takes place after a person has been wrongfully convicted but is later found to be factually innocent basis a new fact / proof coming to light.
- As per the law commission, 'Wrongful prosecution' would include cases where the accused and not guilty of the offence, and the police and / or the prosecution engaged in some form of misconduct in investigating and / or prosecuting the person. It would include both the cases where the person spent time in prison as well as where he did not; and cases where the accused was found not guilty by the trial court or where the accused was convicted by one or more courts but was ultimately found to be not guilty by the Higher Court.

- **Highlights of the report:**
- This report looks at the issue from the context of Indian Criminal Justice system and recommends 'wrongful prosecution' to be the standards of miscarriage of justice, as against 'wrongful conviction' and 'wrongful incarceration'.
- The Report gives an overview of the remedies available under the existing laws and discusses their inadequacies (also noted by the High Court in the aforementioned Order).
- The Commission recommends enactment of a specific legal provision for redressal of cases of wrongful prosecution – to provide relief to the victims of wrongful prosecution in terms of monetary and non-monetary compensation (such as counselling, mental health services, vocational / employment skills development etc.) within a statutory framework.
- The Report enumerates the core principles of the recommended framework- defining 'wrongful prosecution' i.e., cases in which claim for compensation can be filed, designation of a Special Court to decide these claims of compensation, nature of proceedings – timeline for deciding the claim, etc., financial and other factors to be considered while determining the compensation, provisions for interim compensation in certain cases, removal of disqualification on account of wrongful prosecution / conviction etc.
- A draft Bill is also annexed with the Report as the Code of Criminal Procedure (Amendment) Bill, 2018.

Facts for Prelims:

- The ***International Covenant on Civil and Political Rights ('ICCPR',***

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ratified by India) also creates an obligation on the State parties to enact a law to compensate the victims of such miscarriage of justice.

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'8888' UPRISING

- ***What is it?*** It was a series of nationwide protests, marches and civil unrest in Burma (Myanmar) that peaked in August 1988. Key events occurred on 8 August 1988 and therefore it is known as the 8888 Uprising.
- ***Why in News?*** August 8 marks the 30th anniversary of this uprising.

Overview of the uprising:

- '8888' was a people's movement that challenged the then ruling Burma Socialist Programme Party's grip on political, economic and social affairs which led the country into extreme poverty.
- ***The objective of '8888' was two-fold:*** to push for the transfer of power from the military to a civilian leadership and a change in the political system from an authoritarian regime to a multi-party democracy.
- The protests and the bloody crackdown gave rise to the National League for Democracy (NLD), a political party which paved the way for the current Myanmar State Counsellor, Aung San Suu Kyi's entry into politics and for the pro-democracy movement to continue.

The present set up:

- The democratic transition in Myanmar thus far has been meticulously designed by the military. The primary objective, which is laid out in the country's 2008 Constitution, is to give the military a dominant role in politics.
- In a parallel to the 'Burmese way to socialism' introduced by former military leader Ne Win in the 1960s, Myanmar now practices what can be called the 'Burmese way to democracy' as introduced by former Prime Minister Khin Nyunt in 2003 when he announced the military's seven-step road map to a flourishing democracy.

Way ahead:

- For democracy to strike deep roots in Myanmar, the role of the '8888' leaders remains important. The military must note that the people of Myanmar as well as members of the international community want a democracy that respects the rights of all its people, including the minorities.
- The military may hesitate to roll back its dominant role in Myanmar's politics but it should note that no democracy can succeed when the military holds the reins and is unaccountable to an elected civilian leadership.

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UIGHURS

- ***Who are they?*** The Uighurs are a Muslim ethnic minority mostly based in China's Xinjiang province. They make up around 45% of the population there. Xinjiang is officially designated as an autonomous region within China, like Tibet to its south.
- ***Why in News?*** A UN human rights committee has heard there are credible reports that China is holding a million Uighurs in "counter-extremism centres".

What is Beijing accused of?

- Human rights groups including Amnesty International and Human Rights Watch have submitted reports to the UN committee documenting claims of mass imprisonment, in camps where inmates are forced to swear loyalty to China's President Xi Jinping.
- The World Uyghur Congress said in its report that detainees are held indefinitely without charge, and forced to shout Communist Party slogans.
- It said they are poorly fed, and reports of torture are widespread. Most inmates have never been charged with a crime, it is claimed, and do not receive legal representation. China is said to carry out the detentions under the guise of combating religious extremism.

Reasons for unrest:

- Over the decades, waves of Han Chinese migrants arrived in the region, displacing Uighurs from their traditional lands and fueling tensions.
- Xinjiang is now home to more than eight million Han Chinese, up from 220,000 in 1949, and 10 million Uighurs. The newcomers take most of the new jobs, and unemployment among Uighurs is high.
- They complain of discrimination and harsh treatment by security forces, despite official promises of equal rights and ethnic harmony.

Why is China concerned about the Uighurs?

- Beijing says Uighur groups want to establish an independent state and, because of the Uighurs' cultural ties to their neighbours, leaders fear that elements in places like Pakistan may back a separatist movement in Xinjiang.

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G20 Digital Economy Ministerial Meeting

- ***Context:*** In the framework of the Argentinian presidency of G20, the 2018 edition of ***Digital Economy ministerial meeting*** is being held in Salta, Argentina. The ministerial meeting was preceded by the second meeting of ***the G20 Digital Economy Task Force***.
- Argentina has selected the theme, ***'Building consensus for fair and sustainable development, '***for the 2018 G20 Leaders' Summit, and has identified three key issues for the agenda: the future of work, infrastructure for development, and a sustainable food future.

Digital Economy Task Force:

- The Digital Economy Task Force (DETF) was established under the 2017 German presidency, based on the decision adopted in Hangzhou in 2016 under the Chinese Presidency.
- In Antalya, under the Turkish presidency in 2015, G20 leaders recognized the modern period as a critical era of digital transformation, influenced by the advent of new technologies as key elements for economic development.

What is Digital economy?

- The digital economy refers to a broad range of activities which include: the use of knowledge and information as factors in production, information networks as a platform for action, and how the information and communication technology (ICT) sector spurs economic growth.

Challenges to digital economy:

- Important challenges include providing high-speed internet for all by 2025, creating inclusive growth and new jobs through digital trade, promoting lifelong digital learning, and closing the gender gap.

About G20:

- ***The G20 is made up of 19 countries and the European Union***. The 19 countries are Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States.

Origin:

- ***The G20 was born out of a meeting of G7 finance ministers and central bank governors in 1999*** who saw a need for a more inclusive body with broader representation to have a stronger impact on addressing the world's financial challenges. The G7 invited leading markets – both developed and emerging – to form a new ministerial-level forum: the G20.

Significance:

- In 2008, amidst the global financial crisis, the world saw a need for new consensus-building at the highest political level. Since then, the G20 summits have been attended by heads of state or government, and the G20 was instrumental in stabilizing the world economy. Since then, its agenda has expanded to include additional issues affecting financial markets, trade, and development.

Global Impact:

- Collectively, G20 members represent all inhabited continents, 85% of global economic output, two-thirds of the world's population, and 75% of international trade.
- G20 policy-making is enriched by the participation of key international organizations regularly invited to G20

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meetings, guest countries invited at the president's discretion, and engagement groups composed of different sectors civil society.

The work of the G20 is generally divided into two tracks:

- ***The Finance track*** comprises all meetings with G20 finance ministers and central bank governors and their deputies. Convening several times throughout the year, they focus on financial and economic issues, such as monetary, fiscal and exchange rate policies, infrastructure investment, financial regulation, financial inclusion and international taxation.***The Sherpa track*** focuses on broader issues such as political engagement, anti-corruption, development, trade, energy and climate change, gender equality, among others. Each G20 country is represented at these meetings by its relevant minister, and by its designated sherpa, or emissary. The sherpa engages in planning, negotiation and implementation tasks on behalf of the leader of their respective country. Each sherpa orients their minister and head of state or government accordingly on the progress of the G20, and delegates the dialogue and topics to relevant working groups.

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QUAD GROUPING

- ***Context:*** A report on the policy recommendations on Indian Ocean security by four think tanks from the Quad countries has been unveiled.

Important recommendations:

- ***Maintain the momentum of high-level consultations*** among the Quad countries with the aim of "free and open Info-Pacific region" and progressively move it to a political level.
- ***Australia, Japan, India and the US should work with countries in the IOR to help maintain independent security and economic policies*** by supporting high-quality alternatives to unilateral Chinese investments and political alignment with Chinese regional objectives.
- ***The four countries should work to oppose the establishment of permanent Chinese military bases in the IOR***. This should include demonstrating to China that its security needs can be met through cooperation and consultation with other nations and without the recourse to a "disruptive unilateral military presence."
- ***Naval fleets should evolve increasingly long range operations***. This may require consideration in Japan of new options such as nuclear propulsion for its submarines.

The Quad:

- Regional coalition known as the 'Quad', the quadrilateral formation includes Japan, India, United States and Australia.
- All four nations find a common ground of being the democratic nations and common interests of unhindered maritime trade and security.
- The idea was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn't move ahead with Australia pulling out of it.

China's concerns:

The coming together of India, the US, Japan and Australia is being seen as building a strategic partnership to deal with China's rise and its implications.

Way ahead:

The Quad grouping is one of the many avenues for interaction among India, Australia, Japan and the US and should not be seen in an exclusive context. Quad should not be seen in any comparative or in an exclusive context.

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VENEZUELA CRISIS

- ***Context:*** Venezuela, once a rich oil reserve country, is now battering an unprecedented economic crisis. Hyperinflation, mass migration, food shortage, increasing number of crimes and grinding poverty has pushed the nation into a deep turmoil.

What is the Venezuela crisis?

- ***Hyperinflation*** is the biggest problem faced by Venezuela. The inflation rate there is expected to reach a stunning one million per cent this year, putting it on par with the crises of Zimbabwe in the 2000s and Germany in the 1920s, according to the International Monetary Fund.
- The government claims that the country is the victim of an "economic war" and that the major issues are due to opposition "plots" and American sanctions.

What caused this increase?

- ***The plummeting oil prices*** since 2014 is one of the main reasons why Venezuela's currency has weakened sharply. The country, which has rich oil reserves largely depended on it for its revenue.
- But when the oil price dropped drastically in 2014, Venezuela which received 96 per cent of its revenue from the oil exports, suffered a shortage of foreign currency. This made import of basic essentials like food and medicines difficult.

Impacts:

- ***Venezuela's imports are down 50% from a year ago***. Venezuela's minimum wage is now about the equivalent of $1 a month, making basics unaffordable for many. With a shortage of the import goods, the black market has got a free hand in the country. Prices have been doubling every 26 days on average.
- ***A survey from February this year found that almost 90% of Venezuelans live in poverty*** and more than 60% surveyed said that they had woken up hungry because they did not have enough money to buy food, reported Reuters. Apart from food, the country is also facing medicine shortage. The economic crisis has also hit the public health system, making medicine and equipment inaccessible to its people.
- ***As the country slips into poverty***, many are turning towards crime to make money. A recent Gallup study placed Venezuela at the bottom of its 2018 Law and Order index, with 42 per cent of surveyed Venezuelans reporting they had been robbed the previous year and one-quarter saying they had been assaulted.

Mass migration:

- Angered by the economic crisis in the country, many Venezuelans have started leaving the country. Of the 2.3 million Venezuelans living abroad, more than 1.6 million have fled the country since the crisis began in 2015, according to the UN.
- The pace of departures has accelerated in recent days, sparking a warning from the UN. The majority have crossed into neighbouring Colombia and then to Ecuador, Peru and Chile. Others have gone south to Brazil.

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US SPACE FORCE

- ***Context:*** NASA Administrator recently expressed full support for President Donald Trump's proposed military "Space Force" but added that it will have a role separate from NASA.

Background:

- U.S. President Donald Trump is planning to create a "space force" or a sixth branch of the American armed forces. The space force plan requires congressional approval.
- Military leaders and experts have questioned the wisdom of launching an expensive, bureaucratic new service branch.

What is Space Force?

- The United States Space Force, as proposed by the Trump administration, would be a new branch of the military by 2020, on par with the army, navy, air force, marines and coast guard. An independent branch can't be created until Congress approves it, but the administration can take several steps on its own to prepare for the launch of a new force, the first since the air force was formed shortly after the second world war.
- Officials plan to create a Space Operations Force – an "elite group of war fighters specializing in the domain of space" drawn from various branches of the military, in the style of existing special operations forces, Pence said. They'll also create a United States Space Command and a Space Development Agency, and appoint an assistant secretary of defense for space.

The need:

- The White House points to galactic

threats from US adversaries, particularly Russia and China, which could develop weapons to jam, blind or destroy satellites that are crucial to communications systems.

- In 2007, China destroyed one of its own satellites, in a test of a weapon that could be used to target others. Russia has also tested a missile that could be used to track and destroy satellites.
- Not everyone is convinced, however, with critics saying threats on earth are much more real than the prospect of wars in space.

Does it already exist?

- There is no independent military branch focused on space, but there is a sizable space command within the air force.
- Created in 1982, it is headquartered at Peterson air force base in Colorado and oversees 30,000 people.
- It includes the Space and Missile Systems Center, oversees Department of Defense satellites, and uses radar to monitor ballistic missile launches to guard against a surprise attack on the United States.

Would military action in space be legal?

- In a word, yes. But if a U.S. Space Force ever came online, legal experts

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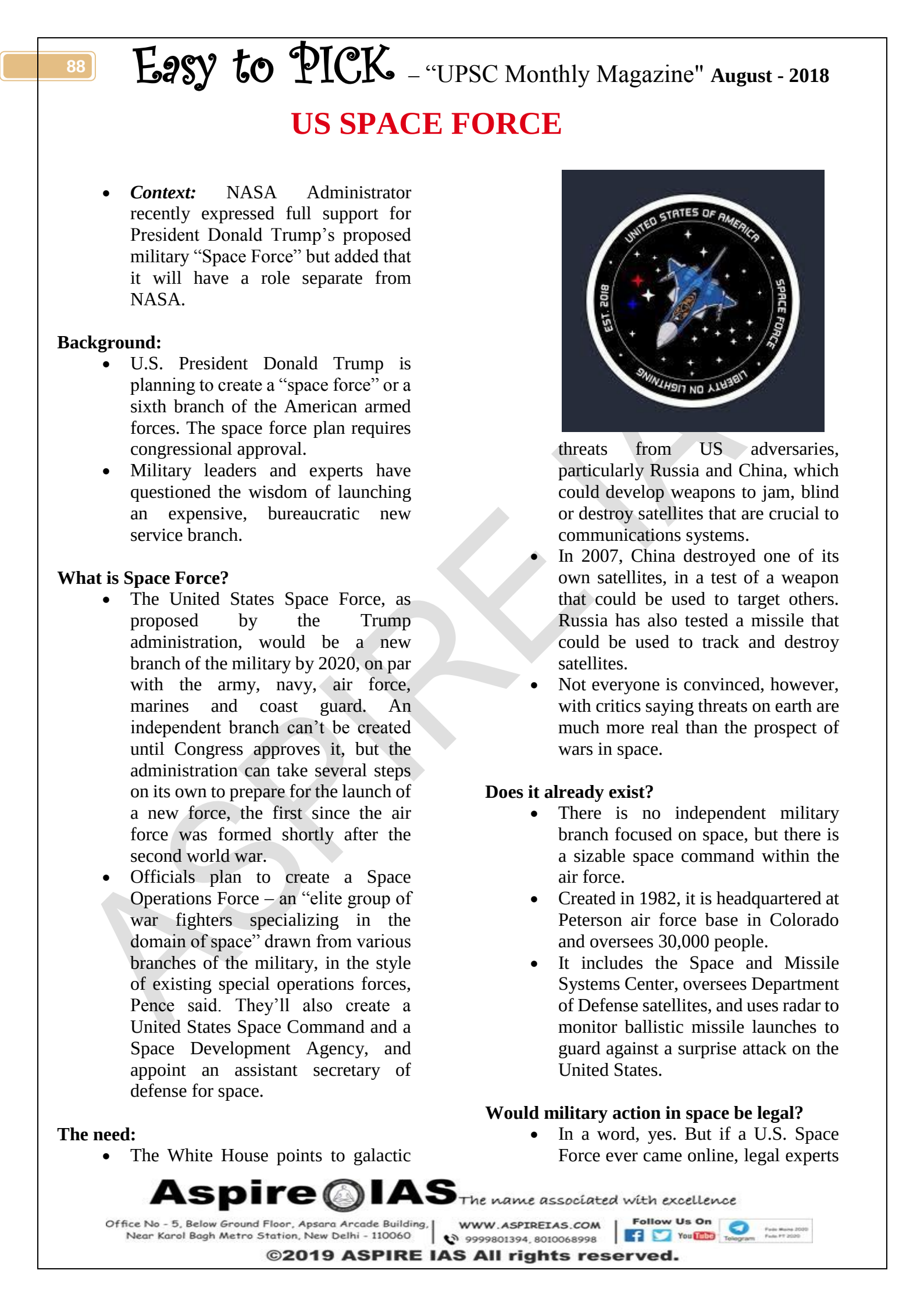
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say that international law would limit what it could do.

- All major space powers, including the U.S., Russia, and China, have signed the Outer Space Treaty of 1967. The pact says that nothing in space can be claimed as a single country's territory, and it bars countries from stationing nuclear weapons or weapons of mass destruction anywhere in outer space, including in orbit around Earth.
- The treaty gets stricter when it comes to "celestial bodies" such as the moon and Mars. Parties can't build military bases, conduct military maneuvers, or test weapons of any kind—even conventional weapons—on another world.
- But the Outer Space Treaty does give countries some wiggle room. The treaty doesn't explicitly forbid intercontinental ballistic missiles, which enter and exit space on their way toward their targets. The treaty also doesn't specify whether conventional weapons can be used in open space or on space stations.

Why it may not feasible to have a space force?

- The fundamental difficulty of a space corps is that the physical environment of space is not conducive to the conduct of military operations without incurring serious losses in the form of spacecraft and debris.
- And despite efforts to make spacecraft more fuel efficient, the energy requirements are enormous.
- The technical demands of defending assets in space make the possibility of dominance and space as a domain for war-fighting a sort of chimera.

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International Nitrogen Initiative

- ***Context:*** Indian scientist ***Nandula Raghuram*** has been elected as the Chair of the International Nitrogen Initiative (INI), a global policy making initiative. He is ***the first Indian and Asian to be elected to the Chair of INI***.

About International Nitrogen Initiative:

- The International Nitrogen Initiative (INI) is an international program, set up in 2003 under sponsorship of the Scientific Committee on Problems of the Environment (SCOPE) and from the International Geosphere-Biosphere Program (IGBP).
  - The initiative aims to optimise nitrogen's beneficial role in sustainable food production and minimize nitrogen's negative effects on human health.
  - INI is coordinated by a Steering Committee, led by a chair and six regional centre directors representing, Africa, Europe, Latin America, North America, South Asia and East Asia.
  - The INI holds a conference once in every three years, inviting members of the international nitrogen community to meet up and discuss ideas and exchange knowledge on nitrogen issues.
  - The program is currently a sustained partner of Future Earth, an international organisation that works to accelerate transformations to global sustainability through research and innovation.

Nitrogen:

- Nitrogen is one of the five major chemical elements that are necessary for life. While nitrogen is the most abundant of these, more than 99% of it occurs as molecular nitrogen, or N2, which cannot be used by most organisms. This is because breaking the triple bond holding the two nitrogen atoms together requires a large amount of energy, which can be mustered only through high-temperature processes or by a small number of nitrogen-fixing microbes.
- Most living organisms can only make use of reactive nitrogen, which includes inorganic forms of nitrogen like ammonia, ammonium, nitrogen oxide, nitric acid, nitrous oxide, and nitrate, and organic compounds like urea, amines, proteins, and nucleic acids. It includes any nitrogen compound that is radiatively, chemically or biological active.

Why care about it?

- In the prehuman world, a small amount of usable reactive nitrogen was created from N2 by lightening and biological nitrogen fixation, but the spread of reactive nitrogen was held in check by denitrification, a process that converts reactive N back to N2.
  - This is no longer the case. Human beings have dramatically altered

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the nitrogen balance, breaking into the vast reservoir of molecular nitrogen and releasing reactive forms into the environment. We have done so by cultivating legumes, rice, and other crops that promote nitrogen fixation, by burning fossil fuels, and by transforming nonreactive atmospheric nitrogen to ammonia to sustain food production and some industrial processes.

- During the last few decades, the global increase of reactive nitrogen by all human sources has far outstripped production from all natural terrestrial systems, and since the 1960s, the rate of increase has accelerated sharply.
- This unprecedented growth in reactive nitrogen has impacted the health and welfare of people and ecosystems worldwide. On the positive side, approximately 40 percent of the world's population is fed by crops sustained by human-induced formation of reactive nitrogen.
- At the same time, this reactive nitrogen can cascade through a variety of environmental systems, damaging them significantly and exacting a toll on human health. Reactive nitrogen is implicated in the high concentration of ozone in the lower atmosphere, the eutrophication of coastal ecosystems, the acidification of forests, soils, and freshwater streams and lakes, and losses of biodiversity. In the form of nitrous oxide, a greenhouse gas, nitrogen contributes to global warming and stratospheric ozone depletion.

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GS - III

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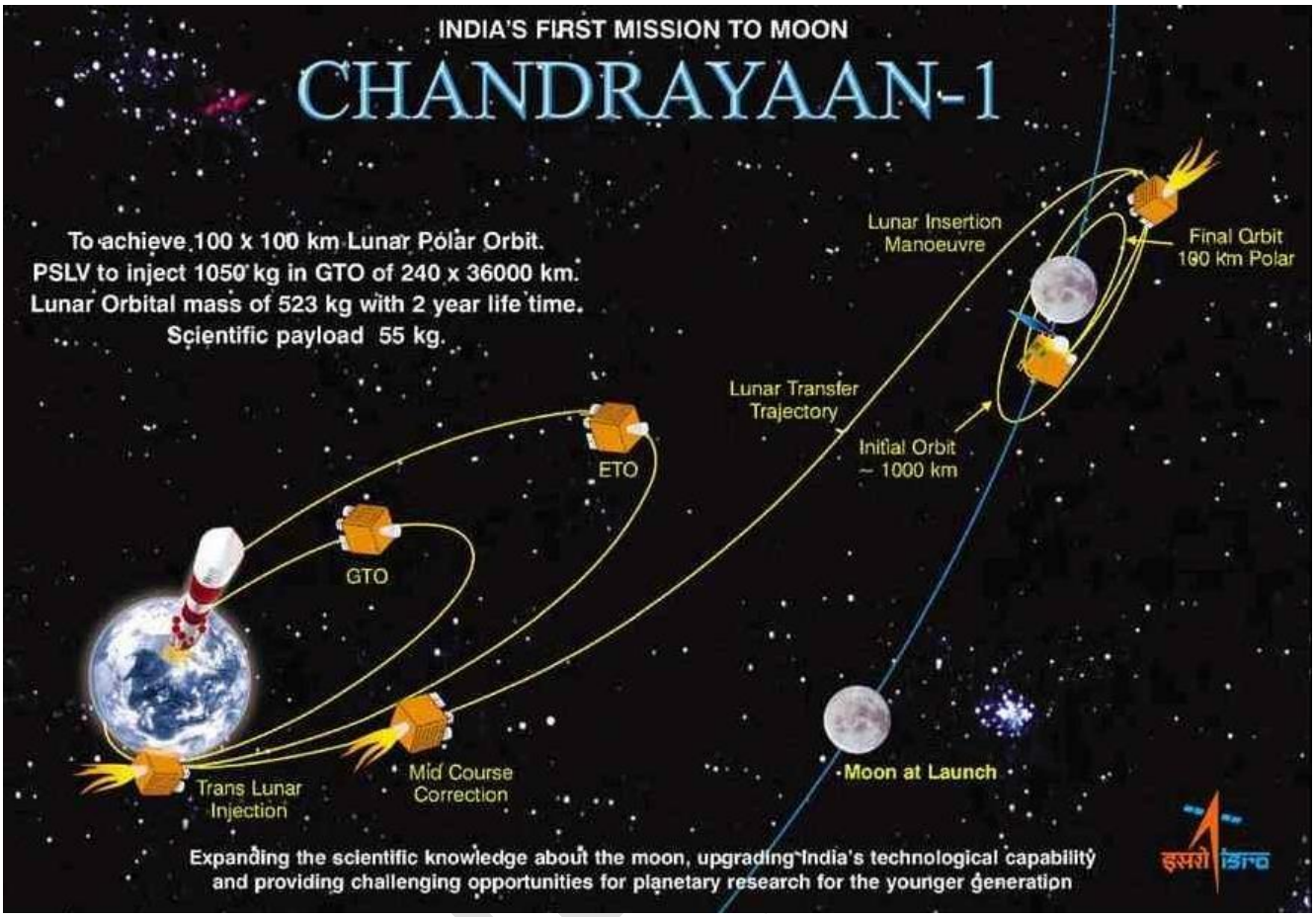
CHANDRAYAAN- 1



- ***Context***: Scientists have found frozen water deposits in the darkest and coldest parts of the Moon's polar regions using data from the Chandrayaan-1 spacecraft, that was launched by India 10 years ago.
- Scientists used data from NASA's Moon Mineralogy Mapper (M3) instrument to identify three specific signatures that definitively prove there is water ice at the surface of the Moon.

What is Moon Mineralogy Mapper (M3) instrument?

- M3, aboard the Chandrayaan-1 spacecraft, launched in 2008 by the Indian Space Research Organisation (ISRO), was uniquely equipped to confirm the presence of solid ice on the Moon.
- It collected data that not only picked up the reflective properties we would expect from ice, but was able to directly measure the distinctive way its molecules absorb infrared light, so it can differentiate between liquid water or vapour and solid ice.

Highlights of the findings:

- With enough ice sitting at the surface — within the top few millimetres — water would possibly be accessible as a resource for future expeditions to explore and even stay on the Moon, and potentially easier to access than the water detected beneath the Moon's surface.
- The ice deposits are patchily distributed and could possibly be ancient. At the southern pole, most of the ice is concentrated at lunar craters,

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while the northern pole's ice is more widely, but sparsely spread.

- Most of the new-found water ice lies in the shadows of craters near the poles, where the warmest temperatures never reach above minus 156 degrees Celsius. Due to the very small tilt of the Moon's rotation axis, sunlight never reaches these regions.

Way ahead:

- Learning more about this ice, how it got there, and how it interacts with the larger lunar environment will be a key mission focus for NASA and commercial partners, as humans endeavour to return to and explore the Moon.

About Chandrayaan-1:

- Indian Space Research Organisation (ISRO) lost communication with Chandrayaan-1 on August 29, 2009, barely a year after it was launched on October 22, 2008.
- The Chandrayaan-1 mission performed high-resolution remote sensing of the moon in visible, near infrared (NIR), low energy X-rays and high-energy X-ray regions.
- One of the objectives was to prepare a three-dimensional atlas (with high spatial and altitude resolution) of both near and far side of the moon.
- It aimed at conducting chemical and mineralogical mapping of the entire lunar surface for distribution of mineral and chemical elements such as Magnesium, Aluminium, Silicon, Calcium, Iron and Titanium as well as high atomic number elements such as Radon, Uranium and Thorium with high spatial resolution.

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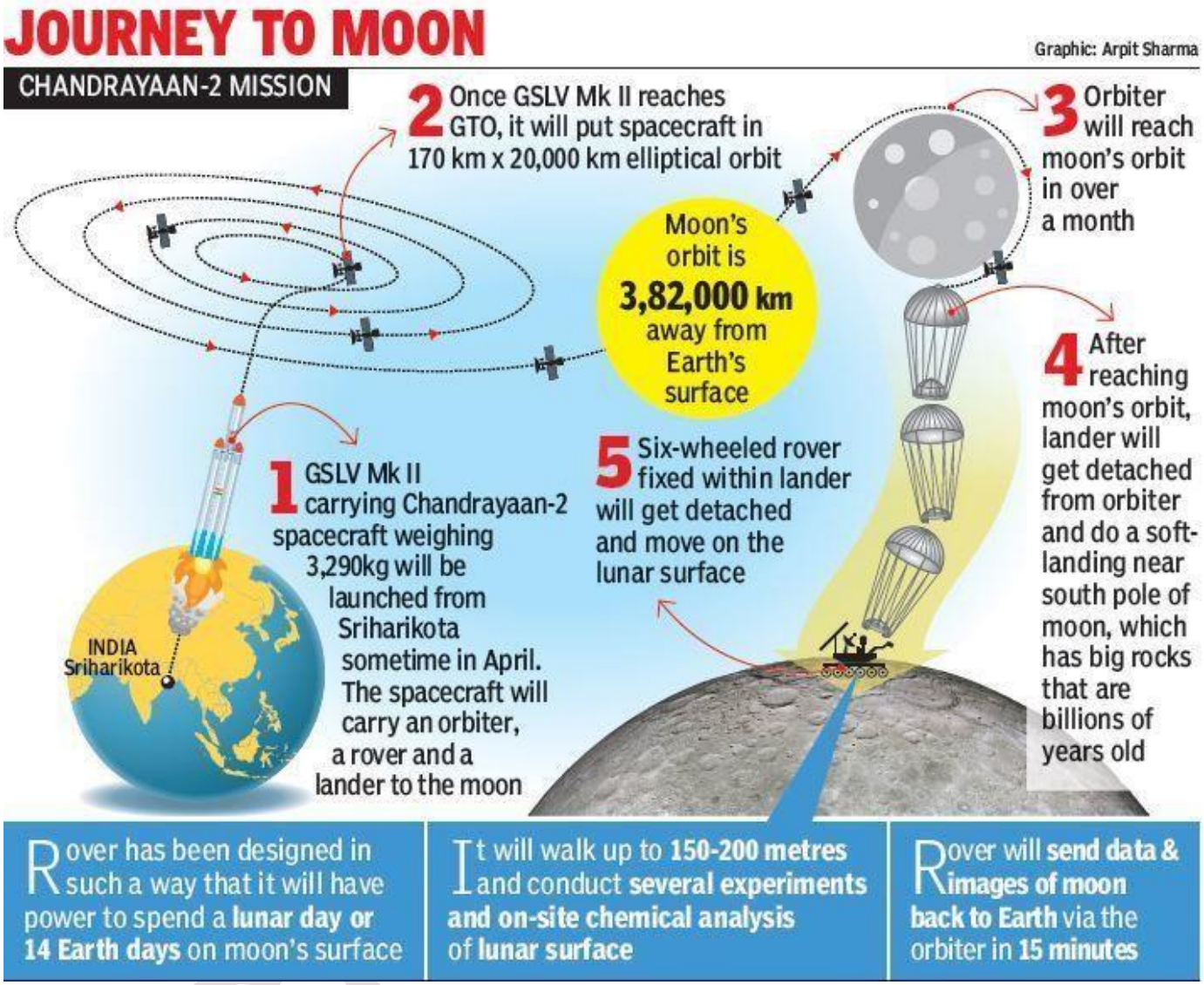
CHANDRAYAAN-2



Context: The mission, Chandrayaan 2, has been postponed again from its proposed October launch to January 2019. This time, the delay was caused because the indigenously developed lander was having trouble with rethrottling. The lander has now gone back to the design table for a design change.

Background- timeline of the mission:

- Chandrayaan-2's journey has been rather slow so far. Although the mission was envisioned way back in November 2007, as a joint mission between India and Russia, it had faced a series of setbacks.
- As per the tie-up, Russia was supposed to provide the lander for the mission, while India would develop the rover and orbiter. ISRO had its prototype ready for a 2013 launch but Russia delayed delivering the lander. Later, Russia said it would not be able to provide a lander for ISRO.
- India then called off the deal and decided to make the Chandrayaan mission completely indigenous. The development has taken time, and given that it is the first time India is developing a lander, the programme has faced many glitches like the present one.

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About Chandrayaan-2:

- Chandrayaan-2 includes soft-landing on Moon and moving a rover on its surface. It is an advanced version of the previous Chandrayaan-1 mission. It consists of an orbiter, lander and rover configuration.
- The Orbiter spacecraft when launched from Sriharikota will travel to the Moon and release the Lander, which will in turn deploy a tiny Rover to roam the lunar surface — all three sending data and pictures to Earth.
- It is planned to be launched as a composite stack into the earth parking orbit (EPO) of 170 X 18,500 km by GSLV-Mk II.

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TREDS PLATFORM

- ***Context:*** State-owned aerospace and defence PSU Hindustan Aeronautics Limited (HAL) has executed its first digitised invoice discounting transaction on ***RXIL TReDS platform*** when it accepted the digital invoice uploaded by Narendra Udyog, a Nasik-based MSME vendor.
- This makes HAL the first PSU (public sector unit) to transact on TReDS across platforms.
- RXIL, India's first TReDS platform, enables MSMEs to gain control of their receivables with enhanced visibility and timeliness.

Salient Features of TReDS:

- Unified platform for Sellers, Buyers and Financiers.
- Eliminates Paper.
- Easy Access to Funds.
- Transact Online.
- Competitive Discount Rates.
- Seamless Data Flow.
- Standardised Practices.

How does the system work?

- A seller has to upload the invoice on the platform. It then goes to the buyer for acceptance. Once the buyer accepts, the invoice becomes a factoring unit.
- The factoring unit then goes to auction. The financiers then enter their discounting (finance) rate. The seller or buyer, whoever is bearing the interest (financing) cost, gets to accept the final bid.
- TReDs then settle the trade by debiting the financier and paying the seller. The amount gets credited the next working day into the seller's designated bank account through an electronic payment mode.
- The second leg of the settlement is when the financier makes the repayment and the amount is repaid to the financier.

What is TReDS?

- TReDS is an online electronic institutional mechanism for facilitating the financing of trade receivables of MSMEs through multiple financiers.
- The TReDS Platform will enable discounting of invoices/bills of exchange of MSME Sellers against large Corporates including Govt. Departments and PSUs, through an auction mechanism, to ensure prompt realization of trade receivables at competitive market rates.

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Participatory Notes

Context: Investments through participatory notes into Indian capital markets have plunged to over nine-year low of Rs 80,341 crore till July-end amid stringent norms put in place by the watchdog Sebi to check misuse of these instruments.

Background:

- The decline could be attributed to several measures taken by the market watchdog to stop the misuse of the controversy-ridden participatory notes.
  - In July 2017, SEBI had notified stricter norms stipulating a fee of USD 1,000 on each instrument to check any misuse for channelising black money. It had also prohibited FPIs from issuing such notes where the underlying asset is a derivative, except those which are used for hedging purposes.
  - These measures were an outcome of a slew of other steps taken by the regulator in the recent past. In April last year, the Securities and Exchange Board of India (Sebi) had barred resident Indians, NRIs and entities owned by them from making investment through P-notes.

WHAT ARE P-NOTES?

- These are used by overseas market participants that don't want to get registered as FIIs. P-notes are not issued in India, rather these are issued by an India registered FII to other overseas investors.
- The FII will be the entity to initiate a transaction in our stock markets, which could be on behalf of foreign clients.
- P-notes are then issued by the FII to the client, underlining that the securities are held on behalf of the client albeit in the name of the FII.
- The P-note holder is entitled to all the dividends, capital gains and other payouts on the underlying securities. FIIs have to periodically report to SEBI on P-note issuance without the need to name the final beneficiary.

What are govt & regulator's concerns?

- The primary reason why P-Notes are worrying is because of the anonymous nature of the instrument as these investors could be beyond the reach of Indian regulators.
- Further, there is a view that it is being used in money laundering with wealthy Indians, like the promoters of companies, using it to bring back unaccounted funds and to manipulate their stock prices.

WHY ARE THEY POPULAR?

- These are a popular way to invest in Indian markets as not only do these save the investor from regulatory hassles of registration, but also allow the final beneficiary to remain anonymous.
- Large hedge funds and high net worth individuals find this a hassle-free and simple way to get exposure to Indian markets.
- Reports also suggest that P-notes may aid in movement of black money or unaccounted funds. Such funds leave the country through various routes and can easily re-enter via investments aided by P-notes, which won't reveal the identity of the beneficiary. Given that P-notes are issued outside India to overseas investors, they are not regulated and are open to misuse.

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Barriers To Cashless Economy

- **Context**: The Reserve Bank of India's second annual report shows that since demonetisation cash transactions have increased.
- Nearly two years after demonetization, about 99.3% of the notes sucked out of circulation has been returned. Besides, the value of bank notes in circulation has increased by 37.7% over the year, reaching Rs 18,037 lakh crore by the end of March 2018.

Outcomes of demonetization:

- Over the last two years, at least three of major claims of demonetization have collapsed.
  - First, ***it was supposed to flush out black money and end corruption***. The government predicted that Rs 3 lakh crore in currency would not return to the banks. This has proved to be false, as most of the cash has returned.
  - Second, ***demonetisation was to help detect fake currency, which apparently funded terror and distorted the economy***. The government claimed that at any point of time, there was Rs 400 crore in fake currency notes floating in the economy. Nine months after demonetisation, it was claimed that Rs 11.23 crore in fake currency had been detected. Now, the Reserve Bank reports a huge jump in fake Rs 2,000 notes, which were introduced after demonetisation.
  - Third, ***demonetisation was to pave the way to a cashless economy and the gleaming new world of digital India***. Two years later, the amount of cash with the public has reached a record high, the bank has claimed.

Background:

- On November 8, 2016, Prime Minister Narendra Modi announced that all Rs 500 and Rs 1000 notes, comprising 86% of the total value of the currency in circulation at that time, would no longer be recognised as legal tender.

What is a cashless economy?

- It is a situation in which the flow of cash within an economy is non-existent and all transactions have to be through electronic channels such as direct debit, credit and debit cards, electronic clearing, payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer and Real Time Gross Settlement.

Benefits of a cashless economy:

- ***Usage of cashless mechanisms would ensure that loopholes in public systems get plugged***, and the intended beneficiaries are able to avail the benefits due to them. It also leads to increased efficiency in welfare programmes as money is wired directly into the accounts of recipients.
- ***Efficiency gains can also be seen*** as transaction costs across the economy come down. It also provides an on-ramp to financial inclusion and enables e-commerce growth.
- ***Reducing use of cash would also strangulate the grey economy***, prevent money laundering and even increase tax compliance, which will ultimately benefit the customers at large.

Benefits for individuals:

- No need for queues outside ATMs.
- No cashout during long holidays.
- No waiting for a deposited cheque to

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be credited.

- No risk of carrying currency notes in the wallet.

What perpetuates use of cash in India?

- A high propensity to save in and use cash.
- Cash intensive supply chains require many merchants to transact in cash.
- A large shadow and remittance based economy is also to be blamed for the situation.
- Gender imbalance in use of digital payments has further aggravated the problem. This is due to insufficient focus on financial literacy.
- Also, costs of point-of-sale terminals and operating costs are still high in India.

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Water Aerodrome

Why in news?

The Ministry of Civil Aviation has approved a proposal to set up water aerodromes in the country.

Details

- **Water aerodrome is a defined area on water**, including any buildings, installations and equipment, intended to be used either wholly or in part for the arrival, departure and movement of aircraft.
- **The Airports Authority of India has identified 5 states** i.e. Odisha, Gujarat, Assam, Maharashtra and Andhra Pradesh where water aerodromes would be developed.
- They are proposed to be developed **near locations of tourist and religious importance**.
- In its first phase, water aerodrome will be established at **Chilika Lake in Odisha**, **Sardar Sarovar Dam and Sabarmati River Front in Gujarat**.
- The Directorate General of Civil Aviation had earlier released licensing norms for the aerodromes, under which:
    - An aerodrome cannot be used for scheduled air transport services unless there is a license.
    - The formal application for setting up a water aerodrome has to be submitted at least 90 days before date of intended operations.
    - An entity seeking to set up a water aerodrome has to take approvals from various authorities, including the ministries of Defence, Home, Environment and Forests, and Shipping.
    - A water aerodrome license would be valid for two years.

- **Benefits of such water aerodromes:**
    - Such aircraft are expected to take people across water faster and more safely than local boats.
    - This would boost tourism and hence economic opportunities in the area.
    - In later phases, government may also consider operations of seaplanes under regional connectivity scheme UDAN.
- However, despite the economic benefits the aerodrome is being opposed in Odisha due to its possible adverse impact on the biodiversity.

Reasons of resistance from Odisha

- **Safety of birds and humans:** For six months between October and March, Chilika lake turns into a **temporary habitat for lakhs of migratory and residential birds.** If an aircraft flies at low height, the birds can get hit. While the bird population will be in danger, safety of passengers of amphibious aircraft will also be jeopardized.
- **Noise pollution:** generated by thousands of motorized boats has already taken a toll on the endangered Irrawaddy dolphins in the lake. The introduction of amphibious aircraft will further worsen the situation.
- **Economic impact:** There would be direct impact on fish and other marine biodiversity which would affect two lakh fishermen families in the region.
- **Existing regulation:** The movement of boats are restricted in many areas of Chilika, including the Nalabana bird sanctuary. In this light the operation of an aerodrome will be difficult to justify.

About Chilika Lake

- It is Asia's **largest brackish water lagoon** located in coastal Odisha.
- It is separated from the Bay of Bengal by a 60 km long narrow strip of **marshy islands and sand- flats.**
- Some of the prominent islands like **Nalabana, Kalijal, Somolo, Honeymoon, Break-fast, Birds and Rajahansa** inhabited by fishermen families, are popular tourist destinations.

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- Because of its rich bio-diversity and socio-economic importance, **Chilika** was designated as a **Ramsar** site in 1981 to afford better protection

Kalijai Temple: It is located on an island in the Chilika Lake, where Goddess Kalijai is worshipped. The celebration of **Makar Sankranti** here attracts pilgrims as well as tourists.

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Bidder Information Management System (BIMS) And Bhoomi Rashi

Why in news?

The Ministry for Road Transport & Highways, Ministry for Shipping and Ministry for Water Resources, River Development and Ganga Rejuvenation had launched two IT initiatives – BIMS & Bhoomi Rashi – with aim to expedite pre-construction processes relating to bidding and land acquisition respectively.

Bidder Information Management System (BIMS)

- The portal will work as a **data base of information about bidders**, covering basic details, civil works experience, cash accruals and network, annual turnover etc. BIMS will be used by all the project implementation agencies of the Ministry.
- It is **aimed at streamlining the process of pre- qualification** of bidders for Engineering Procurement Construction Mode of contracts for National Highway works with enhanced transparency and objectivity.
- The **bidders would be responsible** for ensuring that their latest details are available on the BIMS portal.
- The portal will be operated in conjunction with the CPPP portal for invitation of bids for civil works for EPC mode.
- It is estimated that BIMS portal will significantly reduce the procurement time for projects through an objective and transparent online evaluation system thereby leading to accelerated project implementation.

Bhoomi Rashi

- It is a portal that has been developed in collaboration with National Informatics Centre (NIC), comprising the entire revenue data of the country. The entire process flow, from submission of draft notification by the State Government to its approval by the Ministry is online.
- The portal had been created for expediting the **process of publication of notifications**.
- It has been **integrated with Public Financial Management System (PFMS)**. With this payment of Compensation by the Ministry to the beneficiaries will be just-in-time, and without any parking of funds.
- It will act as one of the key functionalities to facilitate payment related to compensation for land acquisition to all the beneficiaries directly through the Bhoomi Rashi system.

Engineering, Procurement, Construction contract (EPC)

- It is a prominent form of contracting agreement in the construction industry.
- The engineering and construction contractor will carry out the detailed engineering design of the project.
- Then they procure all the equipment and materials necessary.
- And, then construct to deliver a functioning facility or asset to their clients.

- **PFMS** is a web-based online software application developed and implemented by the Office of Controller General of Accounts (CGA). to facilitate sound public financial management system for Government of India (GoI).
- It provides various stakeholders with a real time, reliable and meaningful management information system and an effective decision support system, as part of the Digital India initiative of GoI.
- It would help in tracking and monitoring of flow of funds to the implementing agencies.

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World's First Blockchain Bond

Why in News?

The **World Bank** has launched the world's first public bond created and managed using only blockchain in order to test how the technology might improve current bond sales practices.

More About News

- The project is called '**BONDI'** (Blockchain Operated New Debt Instrument), which is also reference to the Bondi Beach in Sydney.
- **Commonwealth Bank of Australia (CBA)** has been mandated by the World Bank to be the sole arranger of the bond.
- It is a **Kangaroo bond** (foreign bonds issued in Australia in local currency).

Benefits of Blockchain Bonds

- The launch of the blockchain bond is an initial step in moving bond sales away from manual processes towards **automation**.
- Blockchain technology could help in cutting **down bond settlement time** "from T+2 days currently to T+2 minutes".
- The technology has potential to deliver substantial **cost savings** as intermediary activities can be eventually reduced or removed.
- It also improves the **reputation of crypto-technologies** which are currently viewed suspiciously.

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District Mineral Foundation (DMF)

Why in News?

Recently, Centre for Science and Environment (CSE) released the District Mineral Foundation (DMF) Status Report, 2018, which highlighted several shortcomings in the implementation of DMF scheme.

Background

- DMF was instituted in March 2015 through an amendment under the **Mines and Minerals (Development and Regulation) Act, 1957**.
- **Section 9(B)(1),** of the **MMDR (Amendment) Act,2015** provides for setting up of DMF as a non-profit Trust in every mining district and stipulates miners to pay a part of their royalty for the well being of mining affected people so that they too can benefit from natural resources in their areas.

Significance behind establishing DMF

- **Aimed to address the ironic inequality of India's mining affected districts** where the richest lands are inhabited by some of the poorest and most deprived persons and to ensure socio- economic and environmental justice for them by maximizing the welfare and benefit of the mining-affected people and areas in a targeted manner.
- **Recognizes the right of the people to benefit from natural resources**: It is a people-centric vision of natural resource governance where their right to benefit has been put at the forefront.
- **Has defined objectives, specific beneficiaries and geographies (directly and indirectly mining-affected areas) and certain 'high priority' issues to focus on for intervention:** The high priority issues, towards which at least 60 per cent of the DMF budget should be used, include drinking water supply, sanitation, healthcare, education, welfare of women and children, welfare of aged and disabled, skill development, environment preservation, and pollution control measures. Some states have also specified other sectors such as agriculture, affordable housing.
- **DMF's objective and functioning is guided by three fundamental laws of the land**: these include the Constitutional provisions as related to the **Fifth and Sixth Schedules** for governing tribal areas, the Panchayats (Extension to Scheduled Areas) Act (**PESA**), 1996, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of **Forest Rights**) Act, 2006 (the FRA).

Issues with the DMF operation

- **No DMF trust has identified its beneficiaries:** The beneficiaries of the mining affected areas have not been identified by any of the trusts.
- **Excessive control by State Governments:** There was too much state government intervention in deciding DMF fund utilization even though DMF rules and Central Government's flagship scheme- **Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)** categorically emphasize the role of Gram Sabha.
  - Telangana in June 2018 even amended its DMF rules to withdraw participation of Gram Sabha from the DMF body.
  - The Chhattisgarh DMF Rules has created a "Settlor" - the Secretary of Mines - who has over-riding powers to include or scrap any project.
  - In seven out of twelve states reviewed under the study, DMF body was dominated by Government officials and political executives- MLAs, MPs or in some cases elected Panchayat members. However, there was no representation of mining affected people.
- **Misplaced allocations of DMF resources:** This results in by-passing key

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issue areas of the affected districts such as healthcare or nutrition.
  - For instance, in Odisha's Sundergarh district where under five mortality rates in rural areas are very high and nearly 50% children below five have stunted growth, only Rs. 3 Crore is provided for Child development out of district's Rs. 745 Crore sanctions.
  - Similarly, spending is diverted to various construction activities in Urban areas such as 46% of total DMF sanctions in Chhattisgarh's Korba district is used for works in urban areas which include education hub, roads, urban sanitation works, multilevel parking lots, bus stops etc.
  - In Odisha's Jharsuguda, 96% of health sector sanctions are being spent to construct a medical college in Keonjhar town.
- **Lack of planning and ad-hoc investments** are one of the biggest drawbacks in most districts, resulting in many cases districts leaving out people and areas worst hit by mining from DMF fund allocation, for instance, in Jharkhand's Dhanbad district's Jharia coal mine region, which is one of the worst affected areas in the district, no fund is allocated at all from DMF sanctions.
- **Absence of proper administrative setup:** except for a handful of three out of 50 districts studied, no DMF has setup an office for planning and coordination, engaging concerned officials and experts. DMFs are operating in an ad hoc manner with intermittent meetings of DMF bodies where decisions on sanctions are being made. Some districts (as in Odisha and Jharkhand) have engaged private consultants to oversee DMF implementation.
- **Indifferent attitude of the state governments:** Governments in 11 states have issued notifications establishing DMF as a Trust, but the notifications do not essentially elaborate on the composition and functions of the Trust or the rights of the beneficiaries. Gujarat is an exception in every aspect as it does not recognize DMF as a Trust and establishes it as a 'society'.
- **Lack of transparency and accountability:** Public disclosure of information is the key to ensure accountability, however, except for Odisha and Chhattisgarh, no state has a proper DMF website. Also **no audits** have happened for most DMFs. Even for the few districts where it has happened, such as in Chhattisgarh and Odisha, so far financial audits have only happened once and no performance evaluation or social audit essential for public schemes has ever been undertaken.

Way Forward

- If developed and implemented well, DMFs not only have a huge potential for improving the lives and livelihoods of some of the poorest communities but they could also be a model for inclusive governance.
- State governments must provide districts the flexibility to plan and invest on the needs of the local communities. The intended autonomy of DMF Trusts should be maintained.
- A systematic and bottom-up planning approach must be followed to make investments effective. The potential can also be improved by considering convergence with other programmes of the Central and state governments once priority issues are determined.
- Districts must identify DMF beneficiaries; there cannot be a Trust without beneficiaries. This will also help in targeted investments such as for addressing women and child development issues.
- Gram Sabhas (and ward members where applicable) should have a representation in the DMF body. Not following this is in contravention to the spirit of the DMF law as well as the state DMF Rules.
- For efficiency of operations, all DMFs must have an office comprising of officials and experts. Independent

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organizations/planning experts can be roped in from time to time for effective planning.

- Public disclosure of information is key to DMFs' transparency of operation. District-specific DMF-related information must be made available through a website. To ensure access, information should be shared by using panchayat-level platforms.

About Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)

- PMKKKY is a programme launched in September 2015 to provide for the welfare of areas and people directly or indirectly affected by mining related operations. PMKKKY is implemented by the District Mineral Foundations (DMFs) of the respective districts using the funds accruing to the DMF from miners.
- The overall objectives of PMKKKY scheme are:
  - to implement various developmental and welfare projects/programs in mining affected areas. These projects/programs will be complementing the existing ongoing schemes/projects of State and Central Government;
  - to minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economics of people in mining districts; and
  - to ensure long-term sustainable livelihoods for the affected people in mining areas.

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Safety, Security And Environmental Aspects In Petroleum Sector

Why In news?

Recently, Standing Committee on Petroleum and Natural Gas submitted its report on 'Safety, Security and Environmental Aspects in Petroleum Sector'

Introduction

- Efficient, reliable and competitively priced energy supplies are prerequisites for accelerating economic growth. Petroleum industry handles highly inflammable hydrocarbons, and operates processes under high temperature and pressure.
- Industry has a significant **influence on environmental pollution** through exploration and production operations, oil spillage, and refining operations. Therefore, the safety and security and environment protection in petroleum and natural gas industry is of paramount and vital importance and its operation in a safe mode is necessary both for the employees and the society at large.
- The **major cases of accidents across the oil and gas industry** occur due to: (i) not following the standard operating procedures (SOPs), (ii) violation of work permit system, and (iii) knowledge gap.

Issues

- **Multiple Regulating Body**: Various statutory authorities are involved in enforcing safety in the petroleum and natural gas industry.
  - In the oil exploration and production segments, the DIRECTORATE GENERAL OF MINES SAFETY and OISD (MoPNG) regulate safety.
  - In the oil processing and distribution segments, the PESO and PNGRB, which are under the Ministries of Commerce and Industry and MoPNG respectively, are enforcing safety. PESO regulates 97% of the premises, followed by 2% by DGMS, and 1% by OISD.
- **Incidents of Oil Spill:** Oil spill is a major problem in hydrocarbon sector which adversely affects the environment.
- **Poorly trained worker**: Accidents were also caused due to poorly trained workers. It can be resolved by imparting regular training and refresher training of all the workers including contract workers and security personnel.
- **Pilferage from oil pipelines** by anti-social elements poses a major hazard risk.
- **Transportation of Petroleum Products**: Accidents took place that involved trucks transporting petroleum products. To prevent such incident, it should be mandatory to install **GPS along with Vehicle Tracking System (VTS**) in the tank trucks.

Way Forward

- **Formation of a Unified Safety Board for Overcoming Regulatory challenges**: Committee recommended that PESO may be empowered to work as a single framework for regulation of safety in the entire hydrocarbons sector.
- **Environmental Friendly**: Developing Accountability mechanism to oversee the steps taken by refineries in mitigating environmental pollution using the latest and cleaner technology, recovery of by products and resource conservation and effluent treatment facilities.
- **Safety and Security audit** should be carried out at periodic intervals to update and upgrade the security systems in all the oil and gas installations.
- **Use of technology**: Geo-physical Mapping of Potential Disasters for

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advance planning to minimise damage and to deal with accidents efficiently and effectively

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Zero Budget Natural Farming

Context: Indian Council of Agricultural Research (ICAR) under Network Project on Organic Farming (NPOF) and All India Coordinated Research Projects (AICRP) on Integrated Farming Systems, has initiated an experiment on ***"Evaluation of zero budget farming practices in basmati rice-wheat system"*** at Modipuram (Uttar Pradesh), Ludhiana (Punjab), Pantnagar (Uttarakhand) and Kurukshetra (Haryana) from rabi 2017 to study the zero budget farming practices on productivity, economics and soil health including soil organic carbon and soil fertility.

What is Zero Budget Natural Farming?

- Zero Budget Natural Farming, as the name implies, is a method of farming where the cost of growing and harvesting plants is zero. This means that farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops.
- It is, basically, a natural farming technique that uses biological pesticides instead of chemical- based fertilizers. Farmers use earthworms, cow dung, urine, plants, human excreta and such biological fertilizers for crop protection. It reduces farmers' investment. It also protects the soil from degradation.

Government initiatives to support ZBNF:

- Government of India has been promoting organic farming in the country through the dedicated schemes of Paramparagat Krishi Vikas Yojana (PKVY) since 2015-16 and also through Rashtriya Krishi Vikas Yojana (RKVY).
- In the revised guidelines of PKVY scheme during the year 2018, various organic farming models like Natural Farming, Rishi Farming, Vedic Farming, Cow Farming, Homa Farming, Zero Budget Natural Farming (ZBNF) etc. have been included wherein flexibility is given to states to adopt any model of Organic Farming including ZBNF depending on farmer's choice.
- Under the RKVY scheme, organic farming/ natural farming project components are considered by the respective State Level Sanctioning Committee (SLSC) according to their priority/ choice.

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Recently Developed Races Of Silk Worm Seed

- ***Context***: **Central Silk Board (CSB)** has notified recently developed races of silkworm seed of mulberry and Vanya silk for increasing the productivity of cocoons and to increase the income of the farmers engaged in sericulture.

Key facts:

- ***Tropical Tasar Silkworm*** (BDR-10) race developed by the CSB have 21% more productivity than the traditional Daba breed. Farmers can get upto 52 kg cocoons per 100 disease free layings (dfls).
- ***This silkworm*** breed will help the tribal farmers of Jharkhand, Chattishgarh, Odisha, West Bengal, Andhra Pradesh, Maharastra, Madhya Pradesh, Bihar, Telangana and Uttar Pradesh.
- ***Multivoltine x Bivoltine Mulberry hybrid*** (PM x FC2) race of silkworm can produce 60 kg per 100 Dfls and the race is better than earlier race PM x CSR. Due to high quality silk and significant egg recovery, this race is suitable for the farmers of Karnataka, Andhra Pradesh, Tamil Nadu, Telangana and Maharastra.
- ***Eri Silkworm*** (C2) race has been found better than local breed and it can produce 247 numbers of Eri cocoons per 100 Dfls. This race is suitable for the farmers in Arunachal Pradesh, Assam, Bihar, Maharastra, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Sikkim, Uttar Pradesh, Uttarakhand and West Bengal.

Significance:

Silk worm breeds for specific agro-climatic condition are essential for increasing the productivity of cocoons. The recently notified silkworm races will improve the income of the farmers by its enhanced productivity and quality.

CSB:

Central Silk Board (CSB) is ***a Statutory body*** established in 1948 by an Act of Parliament. It is working under the administrative control of Ministry of Textiles, Government of India.

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International Year Of Millets

- ***Context:*** Continuing its efforts to get 'millets' a global recognition for its promotion among consumers, India has written to Food and Agriculture Organisation (FAO) of the United Nations proposing declaration of the upcoming year as ***"International Year of Millets"***.

Significance of this move:

- Adoption of this proposal by FAO with the support of its member nations will enable it to be moved to the United Nations General Assembly (UNGA) for declaration of the upcoming year as International Year of Millets.
- Dedicating a year for millets will not only increase awareness about its health benefits, but also result in higher demand for these drought-resistant varieties, resulting in remunerative prices for poor and marginal farmers.

Efforts by government to promote millets:

- In order to promote 'millets', India had on its part notified these climate resilient crops as ***"Nutri-Cereals"*** and allowed its ***inclusion in the Public Distribution System (PDS)*** for improving nutritional support in April.
- Recognising millets' anti-diabetic properties, the notification called it ***a "powerhouse of nutrients"*** and identified several varieties of millets for promotion. The millets in the category of "Nutri-Cereals" include Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi), Foxtail Millet (Kangani/Kakun) and Buckwheat (Kuttu) among others.
- Besides, the government had in July substantially hiked the ***minimum support price (MSP)*** of millets so that more and more farmers may opt for cultivation of these less water consuming crops.

What are Millets?

- Millet is a common term to categorize small-seeded grasses that are often termed nutri-cereals or dryland-cereals, and includes sorghum, pearl millet, ragi, small millet, foxtail millet, proso millet, barnyard millet, kodo millet and other millets.

Benefits of Millets:

- An important staple cereal crop for millions of small holder dryland farmers across sub-saharan Africa and Asia, millets offer nutrition, resilience, income and livelihood for farmers even in difficult times.
- ***They have multiple untapped uses such as food, feed, fodder, biofuels and brewing***. Therefore, millets are Smart Food as they are Good for You, Good for the Farmer and Good for the Planet.
- ***Nutritionally superior to wheat & rice*** owing to their higher levels of protein with more balanced amino acid profile, crude fiber & minerals such as Iron, Zinc, and Phosphorous, millets can provide nutritional security and act as a shield against nutritional deficiency, especially among children and women.
- ***The anaemia (iron deficiency), B-complex vitamin deficiency, pellagra (niacin deficiency) can be effectively tackled*** with intake of less expensive but nutritionally rich food grains like millets.
- ***Millets can also help tackle health challenges such as obesity, diabetes and lifestyle problems*** as they are gluten free, have a low glycemic index and are high in dietary fibre and antioxidants.

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- ***Adapted to low or no purchased inputs and to harsh environment*** of the semi-arid tropics, they are the backbone for dry land agriculture.
- ***Photo-insensitive & resilient to climate change***, millets are hardy, resilient crops that have a low carbon and water footprint, can withstand high temperatures and grow on poor soils with little or no external inputs. In times of climate change they are often the last crop standing and, thus, are a good risk management strategy for resource-poor marginal farmers.

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Proposal For City-Level GDP

Why in News?

Recently, Ministry of Housing and Urban Affairs (MoHUA) commissioned The Economist Intelligence Unit (EIU) to evaluate methodologies for calculating **city-level gross domestic product (GDP)**, and to assess their applicability to India.

Various Approaches used in calculating City level GDP

- **"Top-down" approaches:** These are essentially used in city-to-state/region or city-to-country ratios to estimate city-level GDP, using existing national or state-level GDPs. Some of these estimates are for specific regions or metropolitan areas, although the concept remains valid for the smaller city unit. For instance, it uses population data to estimate output generated in a specific region.
- **"Bottom-up" approaches:** These mirror the SNA 2008 but are implemented at the city level, necessitating the use of city-level geographic markers during the data collection phase (for example, tagging census data or enterprise returns at the city level). These are rarely adopted due to the extremely high data requirements. For instance, based on the income approach to calculating GDP essentially adds up income generated through the production of goods and services. The report has recommended top- down approach for calculating City Level GDP.

Significance of the city level GDP

- **Rapid growth of urban sector in India:** Urban areas are considered as engine of economic growth for India with the sector contributing more than 60% of India's GDP in 2011 and are likely to contribute around 75% by 2020.
- **Wise fiscal decisions by municipal bodies and investors**: It would ensure better decisions on needed infrastructure & investment and leveraging their economic strength to raise funds to finance their needs.
- **Provide vital indicators for Urban development:** It would help in formulating the economic indicators needed to ensure improved quality of life, job creation and sustainability, which are also the three main components of Smart City mission.
- **Would highlight Indian cities at global level:** According to Global Metro Monitor Report, 2018 by Brookings Institution, several Indian cities rank in the 300 global cities with the fastest GDP growth rates, with GDP of Hyderabad growing at 8.7% followed by Surat at 7.9% which are comparable to the fastest growing Chinese cities.

Challenges in city level GDP calculations

- **Complex exercise:** Calculating city level GDP is more of data intensive exercise and much of the required data is not tracked at the city level, such as inter-city trade, whereas, data on country level GDP is readily available and is codified based on the System of National Accounts (latest version of 2008).
- **Current data collection focus on state level estimates:** In India, MoSPI calculates national GDP and sets the methodology for estimating GDP at the state level. Sampling and data collection is thus currently focused on state level estimates.
- **Requires clear definition of city boundaries:** As GDP is defined as the output generated in a specific area within a specific time, a clear definition of city boundaries is mandatory.

Gross Domestic Product (GDP) and how it's calculated:

- **GDP:** The GDP of a country provides a measure of the monetary value of all the final goods and services produced within

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the country in a specific year.

- There are 3 theoretical ways of calculating GDP, which include:
  - **Expenditure Approach:** The total spending on all final goods and services (Consumption goods and services (C) + Gross Investments (I) + Government Purchases (G) + (Exports (X) - Imports (M)) GDP = C + I + G + (X-M). This method is the most commonly used representation of the GDP.
  - **Income Approach:** This approach aims at adding up the incomes received by all the factors of production. Here, GDP=W (wages) + P (Profits) + R (Rents) + CP (Capital Gains)
  - **Value Added Approach:** In this approach, the value/price of final goods and services (including financial goods and services) are added up and the value of the intermediate goods is subtracted.
- Indian GDP is measured by using **gross value added (GVA) at market price** i.e. all final finished goods and services produced domestically in volume terms multiplied by their market prices give the value of total output.

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Unemployment Allowance

Why in news?

The Andhra Pradesh government has announced **Mukhya Mantri Yuva Nestam scheme** to provide unemployment allowance of Rs 1000 per month to the unemployed youth (between 22-35 years of age) through DBT using Aadhar.

Unemployment in India

- **ILO report "World Employment and Social Outlook Trends - 2018":** The number of unemployed persons in India is expected to rise from 18.3 million in 2017 to 18.6 million in 2018 and 18.9 million by 2019. At the same time, unemployment rate is expected to remain static at 3.5 per cent.
- World Bank in its comprehensive report on India's economy opines that India needs to create a lot of salaried jobs (formal jobs) to meet the working population demands and step up its growth to a middle-income country.
- About 65 percent of the population in the country has an average age of less than 35 years. A large section of unemployed within this can become a demographic burden for India.

The case of Unemployment allowance in India

- Social security, social insurance, employment and unemployment comes within **concurrent list**. Therefore, both Centre and States can make laws over it.
- **MGNREGA** is the only law in India that guarantees 100 days of employment to all in rural areas.
- However, several states like Andhra Pradesh, Kerala, Uttar Pradesh, Himachal Pradesh, Puducherry, etc. have started to provide unemployment allowances to their youths based on degrees possessed by them.
- **Universal Basic income** irrespective of employment status has also been proposed as an idea.

Justification for Unemployment allowance

- A **safety net** will be available to youth during times of unemployment and they can hold on to get better jobs.
- According to Keynesian concepts, when the economy falls into recession it needs increased consumer spending, which is provided by a surge in benefits to the unemployed. This government spending creates a large multiplier effect on the economy as it boosts aggregate demand.
- It will give purchasing power to the people who are likely to spend it locally, helping local business which will further help in creation of jobs and more taxable income.

Criticism against Unemployment allowance

- It adds to the **fiscal deficit of the government**.
- Jobless insurance is a subsidy and **an incentive to stay unemployed.** Various economists have argued that generous or lengthy jobless benefits artificially inflate the unemployment rate.
- It **penalizes workers/employed people**.
- The Unemployment allowance **raises the cost of hiring**.
- **Suppress Personal Savings**: Unemployment is one of the major reasons because of which people save. This saving is also essential in economic growth when channeled into capital investment. It raises the productivity of economy and ultimately boosts wages. Since Unemployment allowance gives little incentive to save, it hurts economy in the long run.
- **Waste, Fraud, and Administrative Costs:** A large amount of public money is also wasted because of bureaucratic costs involved in devolution and administration of such allowances. Higher taxes eventually leads to tax evasion and other frauds.

Way-Forward

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There are three demographic groups in urgent need of jobs i.e. a growing number of better educated youth; uneducated agricultural workers who wish to leave agricultural distress behind; and young women who are better educated than before. Following steps can be taken to create job for them:

- A better industrial and trade policy is required. Steep fall in tariffs after 1990s and inverted duty structures (higher duty on intermediate goods compared to finished products) have damaged MSMEs which have huge potential of job creation.
- Special packages should be provided to labour-intensive industries such as food processing, leather and footwear, wood manufacturers and furniture, textiles and apparel and garments to create jobs.
- Urban development can be aligned with manufacturing clusters to create jobs. Infrastructure investment (like AMRUT) by the government always creates many jobs.
- An engagement between the Urban Development and MSME Ministries can ensure that infrastructure is being developed in towns where MSMEs clusters are more. It will attract more investment to industrial clusters, which is where most non-agricultural jobs are.
- Cluster based skilling programs in areas/sectors where employment opportunities are more. Appropriate public investments in health, education, police and judiciary can create many government jobs.
- Schools need to be revitalised. Vocational courses and scientific education must be included in school curriculum at secondary and higher secondary level to give a broader view to students about career prospects.

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Enabling Monetization Of Infrastructure Assets In India

Why in News?
Government is drawing up a plan to sell public sector Infrastructure assets

More on the news
The government is identifying assets, including rail lines, national highways and power transmission lines, for monetising through **infrastructure investment trusts** (InvITs).

Significance
- Monetisation of assets being held in public sector undertakings through creation of InvITs will fast-track the agenda of **improving infrastructure in the country.**
  - This year's Budget suggested the use of InvITs to monetise roads by the National Highways Authority of India (NHAI).
- The government feels the role of central public sector enterprises is to develop new infrastructure and create a market rather than just earn returns from their investments.
- The **Twelfth Five Year Plan** (2012-2017) projected an investment of Rs 55.75 trillion in infrastructure during 2012-17, more than double that in the Eleventh Five Year Plan.
  - India's banking sector is under pressure as banks, weighed down by bad loans and weak profitability, are reaching their exposure limits in infrastructure lending.

Advantages
Monetization of infrastructure assets will,
- Strengthen the capital position of PSBs so that they are well placed to fund new credit growth opportunities
- Improve fund flow to the infrastructure sector by securitizing infrastructure assets, thus enhancing their access to institutional investors such as pension funds, insurance funds and mutual funds.
- Funds generated can be used to set up Greenfield projects
- It will make up for the lack of private investment.

Infrastructure Investment Trusts (InvITs)
- These are mutual fund like institutions that enable investments into the infrastructure sector by pooling small sums of money from multitude of individual investors for directly investing in infrastructure so as to return a portion of the income to unit holders of InvITs, who pooled in the money.
- InvITs are regulated by Securities and Exchange Board of India

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Policy Framework For Exploration And Exploitation Of Unconventional Hydrocarbons

- ***Context:*** The Union Cabinet has approved the policy to permit exploration and exploitation of unconventional hydrocarbons such as Shale oil/gas, Coal Bed Methane (CBM) etc.
- It will be carried out under the existing Production Sharing Contracts (PSCs), CBM contracts and Nomination fields to encourage the existing Contractors in the licensed/leased area to unlock the potential of unconventional hydrocarbons in the existing acreages.

Significance of the move:

- With the approval of this policy, there will be complete shift from 'One hydrocarbon Resource Type' to 'Uniform Licensing Policy' which is presently applicable in Hydrocarbon Exploration & Licensing Policy (HELP) and Discovered Small Field (DSF) Policy.

Benefits:

- This policy will enable the realization of prospective hydrocarbon reserves in the existing Contract Areas which otherwise would remain unexplored and unexploited.
- With this policy dispensation, new investment in Exploration and Production (E&P) activities and chances of finding new hydrocarbon discoveries and resultant increased domestic production thereof is expected.
- Exploration and exploitation of additional hydrocarbon resources is expected to spur new investment, impetus to economic activities, additional employment generation and thus benefitting various sections of society.
- This will lead to induction of new, innovative and cutting-edge technology and forging new technological collaboration to exploit unconventional hydrocarbons.

Need for new framework:

- As per existing contractual regime of PSCs, existing Contractors are not allowed to explore and exploit CBM or other unconventional hydrocarbons in already allotted licensed/leased area. Similarly, CBM Contractors are not allowed to exploit any other hydrocarbon except CBM. Acreages held at present by various Contractors in PSCs and CBM blocks and National Oil Companies (NOCs) in nomination regime constitute a significant part of India's sedimentary basin.

What is Coal Bed Methane?

- Coal Bed Methane (CBM) is an unconventional form of natural gas found in coal deposits or coal seams. CMB is formed during the process of coalification, the transformation of plant material into coal. It is considered a valuable energy resource with reserves and production having grown nearly every year since 1989. Varied methods of recovery make CBM a stable source of energy.

What is Shale Gas?

Shale gas is a natural gas formed from being trapped within shale formations. It is unconventional source of methane, like coal-bed gas (in coal seams) and tight gas (trapped in rock formations). It is colourless, odourless gas, lighter than air. It is cheaper than natural gas, releases 50% less CO_2, hence better source for generating electricity. It also provides feedstock for petrochemicals industry, which is turned into fertilizer, plastics and other useful stuff.

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'State Energy Efficiency Preparedness Index'

- ***Context: 'State Energy Efficiency Preparedness Index'*** has been released by Bureau of Energy Efficiency (BEE) and Alliance for an Energy Efficient Economy (AEEE).

About the Index:

- The nationwide Index is a joint effort of the NITI Aayog and BEE. The index assesses state policies and programmes.
- The Index will help in implementing national energy efficiency initiatives in states and meet both State as well as national goals on energy security, energy access and climate change.
- It has 63 indicators across Building, Industry, Municipality, Transport, Agriculture and DISCOM with 4 cross- cutting indicators.
- The Index examines states' policies and regulations, financing mechanisms, institutional capacity, adoption of energy efficiency measures and energy savings achieved.

Performance of states:

- States are categorised based on their efforts and achievements towards energy efficiency implementation, ***as 'Front Runner', 'Achiever', 'Contender' and 'Aspirant'***.
  - The 'Front Runner' states in the inaugural edition of the Index are: Andhra Pradesh, Kerala, Maharashtra, Punjab, and Rajasthan based on available data.
  - Gujarat, Karnataka, Tamil Nadu and Haryana have been categorised in the second best category of 'achiever' states.

Significance of the Index:

Such an index assumes significance in a country that is now the biggest emitter of greenhouse gases after the US and China, and which is among the countries most vulnerable to climate change. India plans to reduce its carbon footprint by 33-35% from its 2005 levels by 2030, as part of its commitments to the United Nations Framework Convention on Climate Change adopted by 195 countries in Paris in 2015.

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Concession Financing Scheme

Why in News?

Recently, government extended the Concessional Financing Scheme (CFS) for five years till 2023.

About Concession Financing Scheme

- The scheme is aim to support Indian entities bidding for strategically important infrastructure projects abroad.
- Under the scheme government provide counter guarantee and interest equalization of 2 % to EXIM Bank to offer concessional finance to any foreign Govt. or controlled entity, if any Indian entity, succeeds in getting contract for the execution of a project.
- It will now cover all Indian entities, compared to the earlier stipulation of minimum 75 per cent Indian shareholding.
- EXIM Bank extends credit at a rate not exceeding **LIBOR** (avg. of six months) + 100 bps. The repayment of the loan is guaranteed by the foreign govt.
- Under the scheme **Ministry of External Affairs** selects the project, keeping in view strategic interest of India and sends the same to the Department of Economic affairs.

Significance of the scheme

- It will help in generate substantial backward linkage induced jobs, demand for material and machinery in India and also a lot of goodwill for India.
- **Bidding large Project:** Prior to the introduction of CFS, Indian entities were not able to bid for large projects abroad since the cost of financing was very high for them and bidders from other countries such as China, Japan, Europe and US.

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Falling Rupee

Why in news?
Recently, the Indian rupee weakened past the 71 mark for the first time ever.

More on news

- The rupee has registered a loss of about 10% of its value against the dollar since the beginning of the year making it the worst-performing currency in Asia.
- Other emerging market currencies, most notably the Turkish lira, the Argentine peso and the South African rand, have suffered much larger losses owing to a serious loss of confidence among investors.

Reasons of falling rupee

- **Increasing demand for the dollar across the globe**: The tightening of liquidity in the West, with the U.S. Federal Reserve raising interest rates, has played a major role in the strengthening of the dollar since February this year. Investors who earlier put their money in emerging markets have recently preferred American assets, which now yield higher returns.
- **Higher domestic inflation in emerging economies when compared to the West**: Thus, it is natural for these currencies to slide in value over time against the dollar and other major Western currencies.
- **Trade war** between China and America, leading to import restrictions with high tariffs is causing dollar to appreciate. Huge dollar purchases by oil importing companies have also weighed heavily on rupee.
- **Oil prices: Iran sanctions** have been driving oil prices higher despite OPEC move to raise output. The benchmark Brent crude surpassed the significant $75-mark a barrel. This is bad for India as it is third largest importer of oil, hence **current account deficit** has been coming under pressure.
- **More imports than exports:** India's import bill has been significantly rising without increase in net exports. India's current account deficit is rising and is expected to go up to 2.5-3% of the gross domestic product (GDP) in the current financial year. Differently put, India is importing a lot more than it is exporting. Higher CAD in an environment of tightening financial conditions may continue to put pressure on the rupee

Impact of falling rupee

- **On imports**: the country's imports become more expensive as it takes more rupees to pay for the same quantum of imports.
- **On competitiveness**: As fewer dollars are required for a buyer to pay for the same quantity of exports, India may gain its competitiveness which has been gravely hurt by an exchange rate policy that has prioritised a muscular rupee. It would also promote Make in India**.**
- **On inflation**: More expensive imports are likely to drive inflation upward, especially in India where input products constitute a large part of our imports. It also impacts the oil import bill which plays its own part in pushing inflation up. Rise in inflation would hurt investors sentiment as well.
- **On GDP growth:** On the one hand, costlier inputs and the subsequent increase in the prices of finished goods may have a positive impact on GDP while on the other hand, consequent decrease in demand due to higher prices could nullify this.
- **Widening of deficits:** As per analysts, every $10 per barrel increase in oil prices could worsen current account and fiscal balances by 0.4% and 0.1% of GDP respectively.
- **On tourism**: trips abroad turning more expensive. On the flip side, the domestic tourism could grow as more tourists visit India since their currency now buys

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more here.

- **On employment:** In the medium term, export-oriented industries like Pharma sector, IT, gems and jewellery etc. may also create more jobs.

Steps that can be taken by government

- **Long term solution**
  - Reduce heavy dependence on imports as well as on oil.
  - **Boost export industries** by measures such as ensuring that exporters have easier access to tax refunds; a war-footing attack on red tape at the borders; and a clear commitment to opening up to new market- enhancing trade deals.
  - **Attract FDI instead of FII**, through simplification of procedures, laws and dispute redressal. The rules for foreign borrowing should be liberalised by Indian firms to ensure higher inflows.
  - **Maintain limit on deficit**: Although India's fiscal position has improved in recent years, compared to peers, the combined deficit is still on the higher side. The government should not allow the deficit to slip at this stage as it will increase macroeconomic stability risks.

- **Short term solution**
  - **Increase in interest rates** by central bank to control money outflow. However, cost of borrowing increases due to this which may cause fall in investment in the country.
  - **Using foreign reserves to reduce volatility:** As of June 22, the RBI had foreign exchange reserves of $407.81 billion, which it can sell in the open market. It is important to note, though, that reserves are only useful in reducing volatility and are not an antidote for poor economic management. If financial markets start believing that the country has problems at the fundamental level, then defending the currency can become extremely difficult.

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Udan Scheme For International Routes

Key highlights:

- ***Target:*** The scheme envisages to increase the international ticketing to 20 crore by 2027.
- ***The scheme is to be made operational only for states***, which demonstrate their commitment to implement and provide the requisite support for promoting operations under the scheme.
- ***Identification of routes:*** According to the draft, state governments will identify the routes to be connected, and airline operators will assess demand on the identified routes and submit proposals for providing connectivity.
- ***Permitted aircrafts:*** Operations under the scheme will be permitted through fixed-wing aircraft only with more than 70 seats.
- ***The scheme has proposed to set up an International Air Connectivity Fund (IACF)*** — a dedicated fund for providing subsidy support under the scheme. It will be created through the contributions of state governments.
- ***The subsidy support*** shall be provided to selected airlines only for the passenger seats, which remain unsold at the time of IAC flight operation, from the total number of passenger seats for which subsidy has been requested by the selected airline as part of its proposal. The subsidy support will be extended only up to three years.
- The Airport Authority of India will be the ***implementing agency of the scheme***.

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Ballistic Missile Interceptor AAD

- ***Context:*** DRDO conducted the successful test of the Ballistic Missile Interceptor Advanced Area Defence (AAD) from Abdul Kalam Island, Odisha.

About Ballistic Missile Interceptor AAD:

- It is ***an endo-atmospheric missile***, capable of intercepting incoming targets at an altitude of 15 to 25 kms.
- ***Indigenously developed by DRDO***, the AAD interceptor is a single-stage missile powered by solid propellants.
- It has been developed ***as part of indegenous efforts to have multi-layer ballistic missile defence system***, capable of destroying incoming hostile ballistic missiles.
- It is 7.5 metres tall and weighs around 1.2 tonnes.
- The interceptor missile has its own mobile launcher, secure data link for interception, independent tracking and homing capabilities and sophisticated radars.

Background:

- The ***Indian Ballistic Missile Defence (BMD) Programme*** is an attempt to develop and to use a multi-layered ballistic missile defence system to protect from ballistic missile attacks.
- The India's decision to develop Ballistic Missile Defense (BMD) was introduced in the light of the ballistic missile threat mainly from Pakistan, especially can be attributed to the Kargil War in 1999.

Need for BMD:

- India follows 'No First Use policy'. A robust BMD provides an opportunity to the nation to strike back if a nuclear projectile is launched by an enemy state.
- BMD would shield from non-state actors initiated missile warfare and thus could avoid Mutual Destruction trap.
- BMD reduces the incentive for the enemy state to launch a nuclear attack, thus enhancing strategic stability.
- An indigenous system would reduce the import bill of defence systems from other nations.
- Technology developed for BMD can be used in other sectors, especially in space technology.

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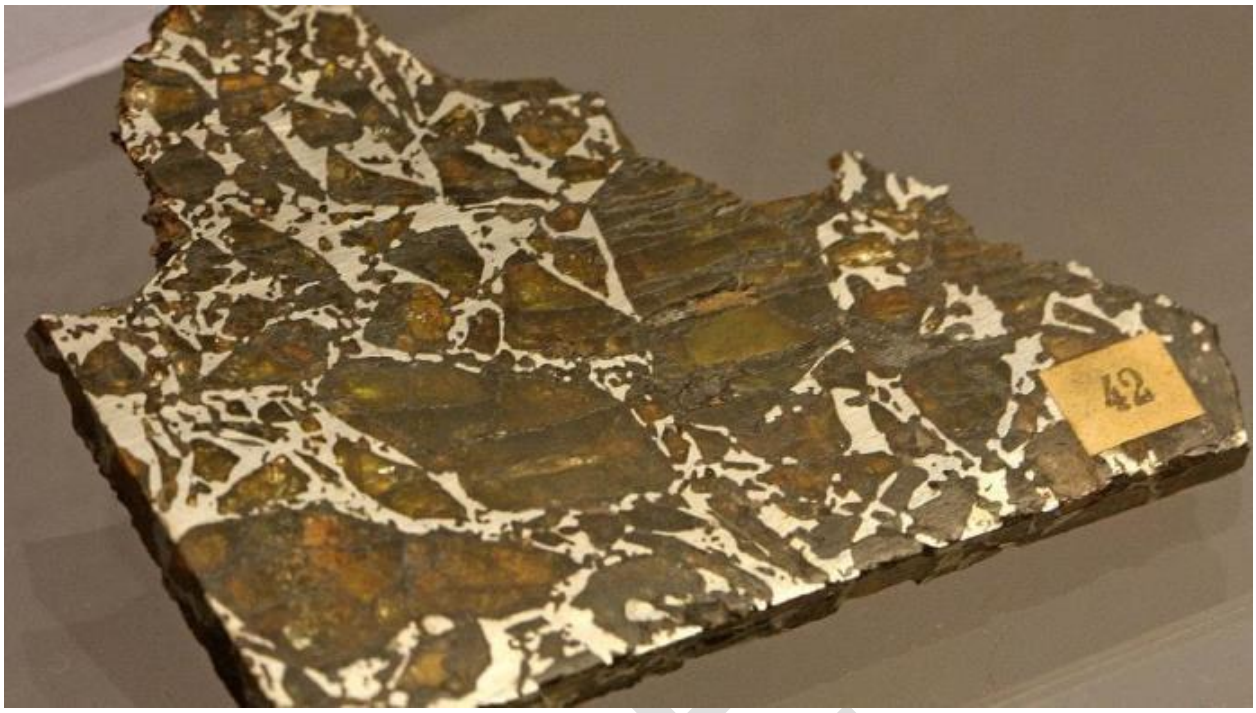
UAKITITE



- ***What is it?*** It is a new mineral has been discovered in a meteorite in Eastern Russia.

Key facts:

- It is named "uakitite" after the Uakit region of Siberia where the meteorite was discovered.
- 98% of the Uakit meteorite is an iron alloy called kamacite, which so far has only been found in other
- meteorites. The other two percent is comprised of minerals that form in space.

Lack of enough data:

Scientists don't know a lot more about this mysterious space rock as they were unable to obtain all physical and optical properties of the mineral because of its small size.

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Maoist Organizations In Towns And Cities

Why in News?

Recent arrests of five people with alleged Maoist links for their role in Bhima – Koregaon incident has once again
brought the debate on the concept of "Urban Naxalism".

Background

- **1967:** Naxalite movement started by Charu Majumdar, Kanu Sanyal and Jangal Santhal in Naxalbari area of West Bengal.
- **2004: CPI (Maoist)** was formed with the merger of CPI (Marxist-Leninist) People's War Group (PWG) and the Maoist Communist Centre of India. It professed a violent ideological line to overthrow the democratically elected Parliamentary form of Government in India through a three pronged strategy that include:
  - **Using its People's Liberation Guerilla Army (PLGA)**, Maoists aim to capture territories in the country side and gradually encircle the urban centre.
  - **Use of Mass Organizations, also known as 'Front Organizations' mainly in urban areas** to mobilize certain targeted sections of the urban population, recruit professional revolutionaries, raise funds for insurgency, create urban shelters for underground cadres.
  - These organizations are generally manned by ideologues that include academicians and activists, mostly operating under the garb of Human Rights NGOs that are organically linked to CPI (Maoist) party structure but maintain separate identities in an attempt to avoid legal liability.
  - Such organizations are also adept at using the legal processes of the Indian State to undermine and emasculate enforcement action by the security forces and also attempt to malign the State institutions through a concerted and systematic propaganda and disinformation campaigns to further their cause. These ideologues have kept the Maoist movement alive and are in many ways more dangerous than the cadres of the PLGA.

Operational Structure of CPI (Maoist): The Polit Bureau (PB), the think tank of the Maoist organization keeps in touch with the over-ground frontal organizations (operating in urban areas), operators and sympathizers and formulates long-term policy and strategy.

- **To form a Rainbow Coalition of various insurgent groups:** so as to launch a united front attack against the existing state machinery.

- **Banned under Unlawful Activities (Prevention) Act, 1967:** CPI (Maoist) party and all its formation and front organizations have been listed as Terrorist organizations under the Unlawful Activities (Prevention) Act, 1967.

About Urban Naxalism

- **In 2004, a CPI (Maoist) document titled 'Urban Perspective: Our Work in Urban Areas' elaborated on Urban naxalism strategy:** with a major focus on gaining leadership and expertise from urban areas, it emphasized on mobilizing industrial workers and urban poor, establishing front organizations, building 'tactical united fronts' of likeminded organizations including the students, middle class employees, intellectuals, women, dalits and religious minorities and engaging in military tasks such as providing personnel, technologies, material and infrastructure along with infiltration of police.
- **Active front organizations in many Indian cities:** Intelligence report reveals that front organizations supporting 'Urban Naxalism' are active in a number of cities including Delhi, Mumbai, Kolkata,

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Chandigarh, Ranchi, Hyderabad, Visakhapatanam, Madurai, Thiruvananthpuram, Nagpur and Pune.

Significance of Urban presence for Naxals

- **Logistics Support:** The utility of having a presence in urban centres and operate there was best illustrated when police seized empty rocket shells and rocket
- launchers in 2006, in Mahabubnagar district, Andhra Pradesh. This elaborates the network that Maoists had built to manufacture rocket parts and transport them to different parts of the country.
- **Tapping industrial workers:** penetrating the working class movement in important industries such as communication, oil and natural gas, coal, transport, power, defence production, etc is envisaged. The detection of Maoist activities in towns such as Surat, in Gujarat, earlier in 2006, and later on several other industrial belts, clearly reaffirms this.
- **Attracting students and youth:** The Urban Movement has attracted students towards the Maoist fold in various parts of the country. Security agencies believe that the front organizations have started vigorous movement in the education sector, to rope in students from several reputed colleges for their cause.
- **Urbanisation itself has some faultlines and the Maoists could well exploit these to their advantage:** The Maoists enjoy some degree of sympathy and support among the urban intellectuals and middle class, including students and teachers in schools, colleges and universities.
- **Rest and recuperations:** On many occasions important top-level leaders of the CPI (Maoist) have been arrested from cities and towns hiding under the garb of civil society.

Way Forward

- Ministry of Home Affairs suggests that the strategy to tackle Left-Wing Extremist (LWE) challenges must **include plans to tackle 'Urban Naxalism'**. State must initiate legal action against the Maoist front organizations.
- A **separate budget** should be provided to counter the growing Naxal footprint in cities.
- Initiating legal proceedings against the ideologues including academicians and activists often resulted in negative publicity for enforcement agencies due to effectiveness of the Maoist propaganda machinery. There is a need to address the issue through systematic, protracted and persistent efforts.

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Defence Offset Fund

Why in news?
Defence ministry is planning to set up an offset fund namely Defence Offset Fund (DOF).

About DOF
- It will be set up to fund promising defence start-ups
- It will be modelled on the successful

Electronics Development Fund (EDF).
- In this fund, the **30 per cent contribution** would come from a **foreign vendor** in discharge of an offset obligation and rest would be raised from market.
- Contributions to the DOF will be eligible for a **multiplier of three**, which means that by contributing $100 million, a vendor would extinguish offset liabilities worth $300 million.
- To create the DOF corpus, the defence ministry is **amending the defence offsets guidelines** that are set out in the Defence Procurement Procedure of 2016.
- The proposed offset guidelines allow foreign arms vendors to discharge offsets — which amount to at least 30 per cent of the actual value of all contracts above Rs 20 billion.

- This fund can then be invested in following areas:
  - Indian defence related infrastructure
  - Sharing specified critical technologies
  - Equity investment in defence manufacturing companies
  - Investment in Sebi-regulated fund dedicated for development of start-ups and MSMEs of defence, aerospace and internal security-related enterprises in the country.

What are offsets?
- Offsets are essentially benefits that a buyer gets from a seller — technology/capability that Indian industry gets from a foreign vendor selling equipment to India.
- The policy on offsets was first introduced as part of the **Defence Procurement Procedure (DPP) 2005**, and has undergone revisions since then.
- The main objective of the Defence Offset Policy is "to **leverage capital acquisitions** to develop Indian defence industry by fostering development of internationally competitive enterprises, augmenting capacity for research, design and development related to defence products and services, and encouraging development of synergistic sectors like civil aerospace and internal security".

About EDF (Electronics Development Fund)
- It is a "**Fund of Funds**" contributing 15 per cent of the value of professionally managed "Daughter Funds", required to raise the remaining 85 per cent from the market.
- **The funds choose and fund start-ups for developing technologies in electronics, Nano-electronics and information technology.**
- The MeitY nominated Canara Bank Venture Capital to select the Daughter Funds. These must be private- or government-run funds following SEBI rules.

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Thermal Battery

- ***Context:*** India has become home to ***the world's first-ever thermal battery plant***. The thermal battery facility, ***inaugurated in Andhra Pradesh***, will be owned by Bharat Energy Storage Technology Private Limited (BEST).

Significance:

- This plant aims to create a new energy storage form that is expected to have commercial applications, while also maintaining a low carbon footprint, and being less dependent on external factors like weather. It could provide energy solutions for electrical grids, transport and telecom services.

What is thermal battery technology?

- A thermal energy battery is used for storing and releasing thermal energy. It allows for available energy to be temporarily stored and be released for use whenever necessary. Standard battery technology is based on charging and discharging cycles mainly operated by electricity.
- The most commonly used Lithium-ion battery works on electrical energy. However, thermal batteries operate on thermal energy, which can be defined as energy created by temperature differences.

How it works?

Thermal batteries use thermal energy to operate, i.e., the energy created by temperature differences. Therefore, the energy transfer in thermal batteries helps store heat when heat travels from one part of the battery setup to the other.

- For that to happen, ***a thermal battery consists of two parts: a cool zone known as sink, and a hot source called source***. Both these sides consist of compounds known as phase-changing materials (PCMs), which can change their state of matter on the basis of a physical/chemical reaction.
- When the sink of a thermal battery receives heat, it transforms physically or chemically, thereby storing energy, while the source cools down. During operation, the sink is cooled down, so it releases the stored energy, while the source heats up. Depending on the nature of the battery, the system can derive heat from any source, which makes a thermal battery very versatile.

Applications with power grids:

- The possible integration of thermal batteries with power grids is one of its main applications. This will help boost industrial demand and provide substantial support to public transport and telecom grids.
- Thermal batteries can function as long as heat is available for them to operate, which can be helpful in power transmission to remote areas. India's rising regional energy requirements can be resolved using this technology.
- The telecom industry will also benefit as thermal batteries will help boost signal strength and network connectivity, which will thereby increase internet and smartphone penetration.

Use in e-vehicles technology:

- The thermal batteries can be used in electric vehicles as well. India's automobile industry has an ambitious target of going completely electric by 2030. Car manufacturers can use thermal battery technology to manufacture vehicle with clean energy at minimal maintenance cost and set up charging stations for the

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same.

Why is it good compared to other technologies?

- Although solar power is considered the most reliable source of energy yet it has pitfalls. The energy generation is not possible after sunset and high rainfall areas, which brings in the need for a robust energy storage infrastructure. Thus, the coming of thermal battery is a landmark development in the field of technology and environmental protection.
- Existing energy storage technologies depend on Lithium-based batteries, which are limited by life cycles, making it a very expensive proposition with replacements needed every six to seven years. They are also low on energy density and need a high footprint.
- Furthermore, Lithium's sensitivity to extreme temperatures requires the energy storage systems to be placed in conditioned temperatures, requiring about eight to ten per cent energy storage for the cause.

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Aerogel- Super-Insulating Gel

- ***Context:*** Scientists have developed a transparent heat-resistant gel- called aerogel- using beer waste.

Features of aerogel:

- The "aerogel" looks like a flattened plastic contact lens. The transparent gel is highly resistant to heat.
- The gel is cheaper to produce because it comes from beer waste. Aerogels are at least 90% gas by weight, but their defining feature is air. Their thin films are made up of crisscrossing patterns of solid material that trap air inside billions of tiny pores, similar to the bubbles in bubble wrap. It is that trapping capacity that makes them such good insulators.

Potential applications:

- It may one day be used to build greenhouse-like habitats for human colonised on Mars.
- It could also be used on buildings on Earth to help make huge savings on energy costs.

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Human Space Flight Programme

- ***Context:*** In his address to the nation on India's 72nd Independence Day, Prime Minister Narendra Modi announced that India will send an astronaut to space in the year 2022.

Indian Human Space Flight Programme:

- India plans to build a crew vehicle that can accommodate 2 or 3 astronauts and human rate its GLSV Mk-III launcher. In 2004, ISRO prepared a document with the road-map for developing technologies relevant to human spaceflight.
- Initially, a manned space flight was proposed before 2017, at a budget of Rs 12.4 billion ($242 million), using a fully autonomous orbital vehicle carrying two or three crew members to 400-km (250 miles) low Earth orbit for up to 7 days and back. The planning commission approved the mission and the government sanctioned Rs 95 crore to study all aspects of the manned space mission.
- ISRO has initiated pre-project Research and Development activities focusing on critical technologies for Human Space Fight Program.

Technological Challenges:

- Three major areas that ISRO needs to master are, environmental control and life support (ECLS) system, crew escape system and flight suite and it's

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currently working on them, under pre-project studies for which the Government sanctioned Rs 145 crore.

Recent technological advancements:

- In what appears to be a preparation for the Gaganyaan mission, ISRO last month conduced its first 'pad abort' test that was successful.
- ***The 'pad abort' test*** or Crew Escape System is an emergency escape measure that helps pull the crew away from the launch vehicle when a mission has to be aborted. The test was conducted at the Satish Dhawan Space Centre, Sriharikota.
- The Pad Abort Test demonstrated the safe recovery of the crew module in case of any exigency at the launch pad.

Way ahead:

- A manned space mission is very different from all other missions that ISRO has so far completed. In terms of complexity and ambition, even the missions to the Moon (Chandrayaan) and Mars (Mangalyaan) are nowhere in comparison.
- For a manned mission, the key distinguishing capabilities that ISRO has had to develop include the ability to bring the spacecraft back to Earth after flight, and to build a spacecraft in which astronauts can live in Earth-like conditions in space.

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Maitree Exercise 2018

Why in News?
Exercise Maitree, a joint military exercise between Indian Army and Royal Thai Army was recently conducted in Thailand.

More

- It is a platoon level exercise which comprises of infantry component.
- The exercise seek to enhance the skills in joint counter insurgency and counter terrorist operations in rural and urban scenario under UN mandate and seek to increase interoperability between both forces for joint operation.

BARAK-8 MISSILE

Why in news?
The Barak 8 missile defence system will be procured by the Israeli Navy to protect its economic zones and strategic facilities.

About Barak 8 missile

- Barak 8 (the Hebrew word for Lightning), jointly developed by **India and Israel,** is a **long-range surface-to-air missile (SAM).**
- It is designed to defend against any type of airborne threat including aircraft, helicopters, anti-ship missiles, and UAVs as well as cruise missiles and combat jets.
- Its main features include**:**
  - Capability to take down an **incoming missile as close as 500 meters** away;
  - Maximum speed – **Mach 2**
  - Operational range - 70 Km (which has been increased to **100 Km**)
  - Two-way data link, Active Radar Seeker Missile with **360-degree coverage** and flexible command and control system enabling **Simultaneous Engagements on multiple targets** in **all weather** conditions.

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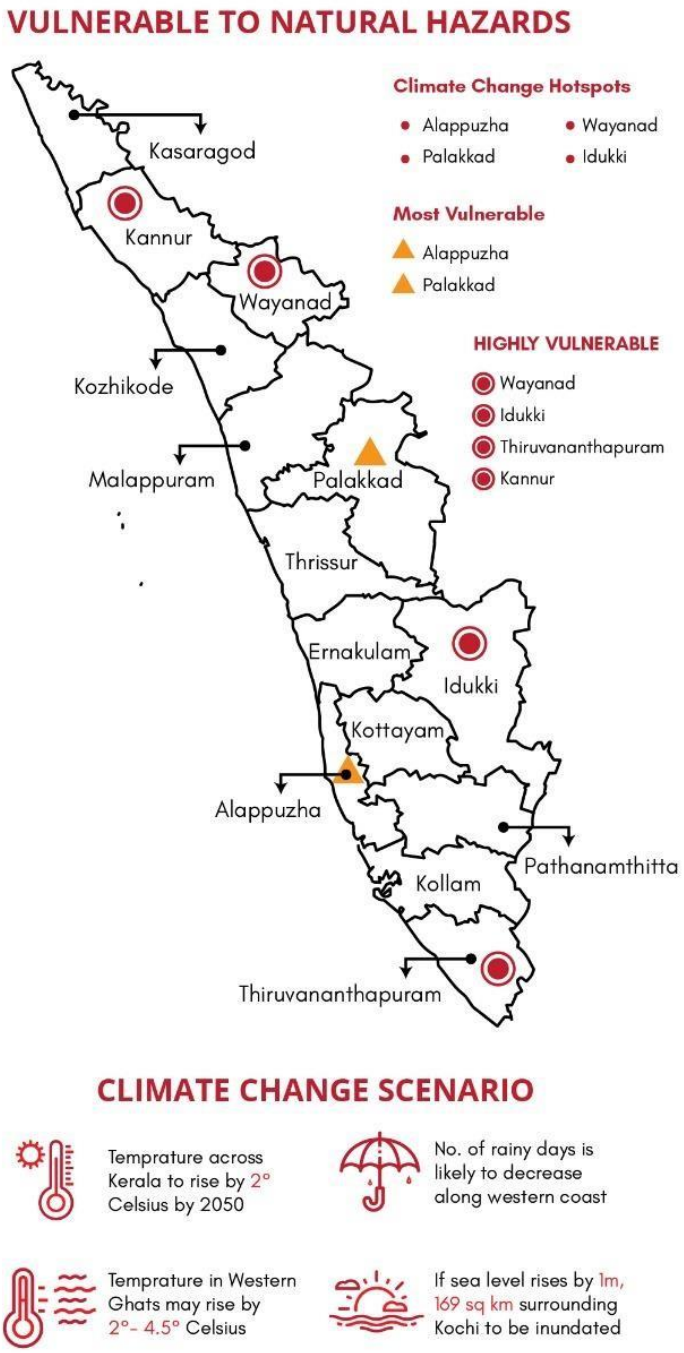
Kerala Flood



Why in news?

Recently, Kerala witnessed their worst flood since 1924, killing at least 480 people, displacing 780,000 and causing ₹ 50,000 crore worth of damage in State.

Background

- **India's Vulnerability to Floods:** 40 million hectares out of a geographical area of 3290 lakh hectares is prone to floods in country.
- **Impact of Climate Change:** Intensity of extremely wet spells and extremely dry spells during the South Asian monsoon season have been increasing since 1980.
- **Financial Drain**: Floods costs the country Rs. 8,12,500 crore between 1953 and 2011 and according to World Resources Institutes (WRI), by 2030, up to $154 billion of the country's gross domestic product could be exposed to flood risks each year, as climate change fosters more extreme weather events.
- **Comptroller and Auditor General (CAG) in June 2017** says the States have failed to conduct a scientific assessment of flood- prone areas and of the 349 dams surveyed, only 40 prepared detailed disaster management plans.
  - It also pointed out that **poor dam management** was responsible for India's floods, such as Bihar in 2016 and Surat in 2006. In the 2015 Chennai floods, which claimed 295 lives, violation of dam safety norms was a critical factor.

Flood vulnerability in Kerala

- **Rashtriya Barh Aayog (RBA)** had estimated 8.70 lakh hectares area as flood prone out of 38.90 lakh hectares of geographical area in Kerala.
- **Kerala State Action Plan on Climate Change (SAPCC)** in 2014 assessed that state is severely threatened by climate change (see infographic).
- **Central Water Commission (CWC),** India's only flood forecasting agency, does not have any flood forecasting system in Kerala.
- **Gadgil report on fragile ecosystem of Western Ghats (2011)**, had warned that illegal mining and deforestation had led to massive encroachment of river fronts in

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the state, and there was an urgent need for corrective action.
    - It also said that, unchecked quarrying and construction in ecologically sensitive areas, can cause disastrous floods due to premature siltation in many reservoirs in the Western Ghats.

Reasons

- **Incessant rainfall**: Kerala received 2,346.6 mm of rainfall against a normal of 1,649.5 mm since the beginning of June. The "active" phase of the monsoon is when the monsoon trough moves south of its normal position causing heavy and intense showers in the southern peninsula
- **Dam Mismanagement:** There was an instant release of water from dam due to heavy rain, as dam reservoirs were not emptied before the onset of rain, flooding the nearby regions at a much faster rate than expected.
    - Kerala government claimed that sudden releases of water from the Mullaperiyar dam (located in Kerala, but operated by Tamil Nadu) was a cause for the floods in the State.
- **Stone quarrying:** A recent study by the **Kerala Forest Research Institute** pointed out that there were 5,924 big, medium and small quarries in the state. Mudslides and landslides were reported in 211 different places across the state which is attributed to increasing stone quarrying activity and large-scale deforestation.
- Other factor which aided in flood are **deforestation drive** for development purpose, **Uncontrolled sand mining** has constrained river flows, while the rapid **spread of high-rise buildings** on unstable hill slopes has weakened the soil. This unplanned development has left the area susceptible to flash floods and landslides.
- **Large expanse of low lying areas**: About 10 per cent of its geographical area is below the sea level.

Impact

- **Impact on Agriculture**: Standing paddy crop and plantations of banana, rubber, cardamom, pepper and arecanut have been devastated as the floods have been concentrated in the plantation districts of Idukki, Kottayam and Wayanad.
- **Loss of Livelihood**: According to Care Ratings, employment of nearly 41.3 lakh has been affected and the wage loss is estimated at around Rs 4,000 crore for August.
- **Loss of Soil Fertility:** Flood cause heavy damages to top soil, which takes time to be restored to its natural state.
- **Cultural loss**: Kerala government has cancelled the celebration of **festival Onam**, the harvest festival of Kerala.
- **Economic Impact:** According to ASSOCHAM, floods in Kerala could potentially have caused damage worth Rs 15,000-20,000 crore, which include infrastructural damages to 134 bridges and 16,000 km of Public Works Department roads.
- **Disease outbreak:** Following severe flooding, 196 **leptospirosis (rat fever) cases** and nine deaths have been confirmed in Kerala.
    - Leptospriosis (also called Weil's disease) is a waterborne bacterial disease, caused by the leptospiro bacteria. It rarely spreads from person to person and can be treated with common antibiotics. It's incubation period is between five and 14 days.

NDMA guidelines on Management of Flood

- Shifting the focus to preparedness by implementing Flood Management Programs (FMPs).
- Ensuring regular monitoring of the effectiveness and sustainability of various structures and taking appropriate measures for their restoration and strengthening.
- Continuous modernization of flood forecasting, early warning and decision support systems.
- Ensuring the incorporation of flood resistant features in the design and construction of new structures in the flood

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prone areas.
- Drawing up time-bound plans for the flood proofing of strategic and public utility structures in flood prone areas.
- Improving the awareness and preparedness of all stakeholders in the flood prone areas.
- Introducing appropriate capacity development interventions for effective FM (including education, training, capacity building, research and development, and documentation.)
- Improving the compliance regime through appropriate.

Dam Management in India
- About 75 percent of the large dams in India are more than 25 years old and about 164 dams are more than 100 years old. A badly maintained, unsafe dam can be a hazard to human life, flora and fauna, even India has had 36 dam failures in the past.

Dam Rehabilitaton and Imporovement Plan (DRIP)
- It is an externally-aided project. 80% of the total project is provided by the World Bank as loan/credit and remaining 20% is borne by the States / Central Government (for CWC).
- This project started in April 2012, for repair and rehabilitation of initially 225 Dams across seven states namely Jharkhand (DVC), Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, and Uttarakhand (UJVNL).
- At present there are 198 Dams under this project which are scheduled for completion in June 2018.
- Objective of DRIP –
  - to improve the safety and operational performance of selected existing dams and associated appurtenances in a sustainable manner, and
  - to strengthen the dam safety institutional setup of participating States / Implementing Agencies.

Emergency Action Plan
- The Emergency Action Plan (EAP) for the Dams under DRIP has been proposed. EAP is a formal plan that identifies potential emergency conditions at a dam and prescribes the procedures to be followed to minimize loss of life and property damage.
- EAP help in streamlining the efforts and bring about better coordination among different agencies to execute rescue and relief activities.

Dam Safety Bill, 2018
- The objective of this Bill is to help develop uniform, countrywide procedures for ensuring the safety of dams and provides for proper surveillance, inspection, operation and maintenance of all specified dams in the country to ensure their safe functioning.
- It provides for constitution of a **National Committee on Dam Safety** which shall evolve **dam safety policies** and recommend necessary regulations
- It provides for establishment of **National Dam Safety Authority** as a **regulatory body** which shall discharge functions to implement the policy, guidelines and standards for dam safety in the country.
- The Bill provides for constitution of a **State Committee on Dam Safety** by State Government.

About State Committee on Dam Safety
- It will ensure proper surveillance, inspection, operation and maintenance of all specified dams in that State and ensure their safe functioning.
- It lays onus of dam safety on the dam owner and provides for penal provisions for commission and omission of certain acts.
- Every state having specified number of dams will establish **State Dam Safety Organization** which will be manned by officers from the field dam safety preferably from the areas of dam-designs, hydro-mechanical engineering, hydrology, geo-technical investigation, instrumentation and dam-rehabilitation.

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National Redd+ Strategy

Why in news?

Union Ministry for Environment, Forest and Climate Change (MoEFCC) **released National REDD+ Strategy**, which will help to fulfill **India's NDC commitment under Paris Agreement of climate change.**

Background

COP 11, 2005 at Montreal	Coalition of 9 rainforest nations sought attention to growing threat of deforestation and introduced concept of **Reducing Emission from Deforestation (RED)**
COP 12, 2006 at Nairobi	'**Compensated Conservation**' policy **introduced** by **India** intended to compensate countries for maintaining and increasing **carbon pools** of their forests.
COP 13, 2007 at Bali	'**Compensated Conservation'** policy approach finally **recognized**
COP 16, 2010 at Cancun	Official entry of **REDD** as a UNFCCC-enabled mitigation mechanism
COP 19, 2013 at Warsaw	It agreed on **Warsaw REDD+ framework** • **Finance**: It encourages financing entities, including the Green Climate Fund in a key role, to channel adequate and predictable results-based finance in a fair and balanced manner, and increasing the number of countries that are in a position to obtain and receive payments for results-based actions • It recognizes the importance of **incentivizing non-carbon benefits** for the long-term sustainability. • It encourages Parties and the private sector to take actions to **reduce the drivers of deforestation** and forest degradation • It encourages stakeholders to meet, on a voluntary basis to address issues relating to **coordination** of support • **Modalities for national forest monitoring systems:** It should be guided by IPCC guidance and provide data and information that are transparent and consistent over time. • Framing procedures for the technical assessment to support **capacity- building** for development and assessment of forest reference emission levels and/or forest reference levels.

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Need for National REDD+ Strategy

- Forest is the second-largest land use in India after agriculture.
- Forestry sector in India can make positive contribution for climate change mitigation like carbon mitigation services of India's forest by improving carbon stocks (carbon pools).
- As estimated, REDD+ programme could provide for capture of around 1 billion tonnes of additional CO2 over the next 3 decades and significant financial incentives as carbon services under REDD+ including **flow of positive incentives to local communities.**

National REDD+ Strategy

The strategy seeks to address drivers of deforestation and forest degradation and also developing a roadmap for enhancement of forest carbon stocks and achieving sustainable management of forests through REDD+ actions. Important provisions include -

- **Coverage of REDD+**
  - REDD+ will cover all trees within forest areas and tree outside forest (TOF)
  - Research is being undertaken to assess the potential of carbon sequestration by grasslands, and coastal sea grasses, salt marshes, phytoplankton etc.
- **Phased approach of REDD+**
  - *Phase 1:* development of national strategies or action plans, policies and measures, and capacity-building.
  - *Phase 2:* implementation of national policies,measures and national strategies or action plans
  - *Phase 3:* evolvement into results based actions that should be fully measured, reported and verified.
- **Sub-national REDD+ Approach**
  - The country has been divided into 14 physiographic zones by the FSI. State Governments may collaborate and develop REDD+ Action Plan in a physiographic zone.
- **REDD+ Activities**
  - It includes Reducing Deforestation, Reducing Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks.
  - Initiatives for Enhancement of Enhancement of Forest Carbon Stocks include Namami Ganga, Forestry Interventions for Other Major River Catchments, Green Highways (Plantation, Transplantations, beautification & Maintenance) Policy – 2015 and innovative programmes like Green Army of Maharashtra.
- **Developing strategies for addressing Deforestation and Forest Degradation**
  - Creating proper awareness amongst stakeholders.
  - Improved Cook Stoves for Addressing Forest Degradation
- **Capacity Building and Trained Human Resource**
  - Building a Cadre of Community Foresters.
  - Green Skill Development Programme.
- **Appointing Targets & appropriate Infrastructure Development**
  - State/UT Governments to work out the appropriate targets of afforestation and reforestation (A&R) for each State/UT that would enable the country meet the objectives of Green India Mission and NDC target.
- **Funding**
  - Finance Commission has recommended devolution of funds to states attaching a weightage of 7.5% of the State's forest cover.
  - Compensatory Afforestation Fund. Green Climate Fund and Other External Sources of Funding

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Ban On Petcoke

Why in News?

India recently banned the import of petcoke for use as fuel.

Background

- Environment Protection (Prevention and Control) Authority (EPCA) in April 2017 had asked for the ban on use of furnace oil and pet-coke in NCR region.
- Supreme Court had banned its use in Delhi and NCR in October, 2017.
- Following which the Central government decided to ban pet coke nationwide.
- Though the Import of petcoke for fuel purpose is prohibited. It is allowed only for cement, lime kiln, calcium carbide and gasification industries, when used as the feedstock or in the manufacturing process on actual user condition.

About Pet Coke

- Petroleum coke or pet coke, is a **solid carbon rich** (90% carbon and 3% to 6% sulfur) material derived from oil refining.
- It is categorized as a "bottom of the barrel" fuel.
- It is a dirtier alternative to coal and **emits 11% more greenhouse gases than coal** and nearly 17 times more sulphur than coal.
- Petcoke is a source of fine dust which can get lodged in the lungs.
- Petroleum coke can **contain vanadium which is a toxic metal**.
- Sulphur-heavy petcoke and other polluting fuels such as furnace oil are widely used by cement factories, dyeing units, paper mills, brick kilns and ceramics businesses.
- India is the **world's largest consumer of petcoke**. Its consumption has grown at a compound annual growth rate of 16 per cent over the past 10 years.
- India had been becoming a **dumping ground of pet-coke** from the US, which has banned its internal use because of pollution.

Reasons for use of Pet Coke

- **Cheaper alternative:** Per-unit delivered energy for petcoke is much cheaper compared to coal making it attractive for buyers.
- **Favourable tax regime:** Though both these fuels are taxed at 18% under GST but the industries, which used these fuels for manufacturing, got entire tax on the fuels credited back. On the other hand on natural gas, which is not included in GST, the VAT is as high as 26 per cent in certain states.
- **Clean energy cess** of Rs. 400 per tonne levied on coal, further promote shift to pet-coke.
- **Zero Ash Content** in Pet coke is a big advantage over coal which has significant ash content. It also allows cement firms can use low grade limestone. This is a big advantage as almost 60 per cent of India's limestone reserves are low grade in nature.

Impact of the ban

- This decision gives a boost to the cement industry as it accounts for about three-fourth of the country's petcoke use. Cement companies were impacted by the recent petcoke-related policy flip-flops.
- The ban would benefit LNG importers, city gas distribution (CGD) etc. as other industrial units would shift from petcoke to alternate fuels such as natural gas.
- Import of pet coke costs about Rs 15,000 crore annually and hence the ban would save precious foreign exchange.

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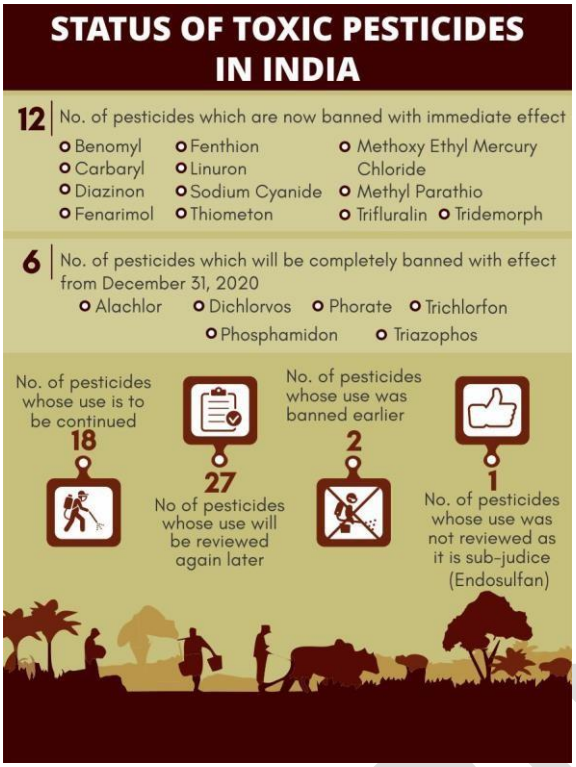
Pesticides Ban

Why in News?

The Government of India has decided to ban the use of 18 pesticides following the recommendations of the Anupam Verma Committee.



More about the news

- The complete ban of 12 pesticides would come into effect immediately while the rest 6 would be banned from December 31, 2020.
- The decision is based on **Anupam Verma committee** which was constituted in 2013 to review the use of 66 pesticides (which are either banned or restricted in other countries.) recommended a ban on 13 'extremely hazardous' pesticides , phasing out of six 'moderately hazardous' ones by 2020, and review of 27 pesticides in 2018.

Significance of the Ban

- The pesticides proposed to be banned are harmful not just to humans and animals but also leech into the soil and water bodies and harm the aquatic ecosystem.They also lead to bioaccumulation.
- India is likely to improve its reputation in countries (where the concerned pesticides are banned) which imports food related products (both manufactured and raw) from India.

Concerns surrounding pesticide ban

- It is estimated that at least 104 pesticides licenced for use in India have been banned in other parts of the world, whereas Verma Committee only reviewed 66. For example Glyphosate was not among the pesticides reviewed by the Verma committee even though it is banned in several countries.
- There are also concerns that Committee left out certain deadly pesticides like Monocrotophos and had asked the industry to come up with safety data on these pesticides.
- Once registered, safety information about pesticide molecules is not legally required to be reviewed periodically to keep pace with toxicological research. Further, only the Centre can ban pesticide molecules. States can only either refuse licences for their sale and manufacture or impose temporary bans no longer than 90 days.
- This means Indians are regularly exposed to a deadly cocktail of pesticides, through direct application or in their food chain, with little updated information about the safety of the chemicals to humans or the environment.

Regulations for pesticide in India

- Insecticide Act 1968, was enacted to regulate imports, manufacture, storage, transport, sale, distribution and use of insecticides with a view to prevent risk to human beings and animals.
- The Central Insecticide Board and Registration Committee (CIBRC) approves the use of pesticides in India.

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- The health and family welfare ministry monitors and regulates pesticide levels in food, and sets limits for residues in food commodities.
- Department of Agriculture, Co-Operation & Farmers Welfare (DAC&FW) has launched a scheme "Strengthening and Modernization of Pest Management Approach in India" to promote Integrated Pest Management (IPM).
- "Grow Safe food" Campaign has been initiated to create awareness about the safe and judicious use of pesticides among the various stakeholders
- India is signatory to UNEP led Stockholm Convention for persistent organic pollutants and Rotterdam convention which promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans.
- Draft Pesticides Management Bill 2017 aims to regulate the manufacture, imports, storage, transportation, inspection, testing and distribution of pesticides.

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Bio-Jet Fuel Flight

Why in news?

Recently, India's first ever bio-jet fuel flight taken off by using the fuel developed by the CSIR-Indian Institute of Petroleum (IIP).

About the initiative

- Aircraft was powered with a blend of 75% air turbine fuel (ATF) and 25% bio-jet fuel made from jatropha crop.
- The bio-jet fuel developed by CSIR-IIP was recognised by American Standard for Testing and Material and received a patent by 2011.
- International standards permit a blend rate of up-to 50% bio fuel with ATF.

Significance

- **Reduce Dependency:** The large-scale production of bio-jet fuels would reduce dependence on traditional aviation fuel by up to 50 per cent on every flight and bring down fares.
- **Cleaner Environment**: The move will be a step toward cleaner environment, because a flight completely powered by bio-jet fuel has the potential to reduce carbon emissions by up to 80 per cent.
- **Meeting Global agency target:** It will help in meeting the International Air Transport Association (IATA) target for one billion passengers to fly on aircraft using a mix of clean energy and fossil fuels by 2025.
- **Employment Generation**: Growth of bio-jet fuel and related infrastructure such as plant operations, village level entrepreneurs and supply chain management, will generate employment.
- **Additional Income to Farmers**: Nearly, 70% of the cost of the bio fuel constitutes the feed cost, if the production of these crops scaled up by demand side factors, there will be increase in famer income.

Challenges

- **High Cost:** It has noted that given the current immaturity of the supply chain of the aviation biofuel industry, these fuels have lower economies of scale and can cost almost two to three times higher than conventional ATF.
- **Agricultural Influence:** The availability of bio-fuel is highly depended on condition of agricultural production in the country. For instance, production of Jatropha and other bio-fuel crop varies seasonally and does not assure optimum supply levels needed to meet the demand at any given time.
- **Ambiguity regarding greenhouse gas emission:** Study by Yale university has found that use of plant jatropha (source of bio-jet fuel) could either reduce greenhouse gas emission by up to 85%, or increase them by 60%, depending on the circumstances in which it is produced.

Step Can be taken

- **Infrastructure:** The infrastructure to mass-produce bio-jet fuel, and to deliver it at airports, is in growing stage, therefore**, bio-jet fuel capable infrastructure** as developed in Los Angeles Air-Port should be adopted by other countries.
- **Balancing the production:** There is a need of balancing the production of raw material for **food security and energy security**, because production of the first generation of biofuels had shown the displacement of other agricultural activity.

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State Energy Efficiency Preparedness Index 2018

Why in news?

The Alliance for an Energy Efficient Economy (AEEE) under the leadership of the Bureau of Energy Efficiency(BEE)
and NITI Ayog has recently released the first Nationwide 'State Energy Efficiency Preparedness Index' .

Background

- In 2001 the Energy Conservation Act was introduced which was instrumental in the formation of the Bureau of Energy Efficiency (BEE) and the State Designated Agencies (SDA) in the states. It also put in place the much- needed institutional framework for formulating energy efficiency policies and implementing them.
- National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight national missions under the National Action Plan on Climate Change (NAPCC). NMEEE aims to strengthen the market for energy efficiency by creating conducive regulatory and policy regime and has envisaged fostering innovative and sustainable business models to the energy efficiency sector. The Mission is implemented since 2011.
- To compliment such efforts the index was recently released considering energy consumption, energy saving potential and states' influence in implementing energy efficiency in buildings, industry, municipalities, transport, agriculture and DISCOMs.

About State Energy Efficiency Index

- Its 4 main objectives are-
  - Help drive EE policies and program implementation at state and local level
  - Highlight best practices and encourage healthy competition among states
  - Track progress in managing states' and India's energy footprint
  - Set a baseline for EE efforts to date and provide a foundation to set state-specific EE targets
- It examines states' policies and regulations, financing mechanisms, institutional capacity, adoption of energy efficiency and energy savings. The Index has 63 indicators in all - 59 across buildings, industry, municipalities, transport, agriculture and DISCOMs; and 4 cross-cutting indicators.
- In each sector, energy efficiency indicators have been developed to measure the impact of state initiatives in driving energy efficiency in states. The indicators are both qualitative and quantitative, which include outcome-based indicators as well to signify realisation of the intended performance outcomes, to the extent possible, for various energy efficiency policies and programs.
- The 'Front runner' states in the inaugural edition of the State Energy Efficiency Index are Andhra Pradesh, Kerala, Maharashtra, Punjab and Rajasthan.

Conclusion

- Periodic release of the State Energy Efficiency Index shall help track progress in managing states' energy footprint and provide guidance in formulating data-driven, evidence-based policies and programmes at the state level.
- It will also contribute towards national energy data management by helping streamline energy efficiency data collection in states.
- The energy efficiency indicators shall be continuously revised and updated based upon the evolving EE landscape in India.

Major Parameters

- **Building sector:** implementing UJALA for energy efficient lighting; incorporating Energy Conservation Building Code (ECBC) in municipal building bye-laws;

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Making mandatory energy audits for certain category of buildings and provide financial incentives for EE building construction and retrofits.

- **Industry sector:** BEE's PAT programme; Programmes for driving energy efficiency in MSMEs and other non-PAT industries are few and far between.
- **Municipal sector:** (Energy Efficiency Service Limited) EESL's Street Lighting National Programme (SLNP); EESL's Municipal Energy Efficiency Programme (MEEP) for public water works and sewerage system retrofits. Other state-level municipal energy efficiency initiatives.
- **Energy efficient transportation:** tracking the fuel efficiency of State Road Transport Undertakings (SRTU) which is published by MoRTH, Use of FAME scheme to purchase hybrid/electric vehicles.
- **DISCOMs**: reducing Transmission and Distribution (T&D) losses.

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The National Wildlife Genetic Resource Bank

Why in news?

Union Science and Technology Minister dedicated the National Wildlife Genetic **Resource Bank (NWGRB)** in Hyderabad.

More on News

- It is established at Laboratory for Conservation of Endangered Species (LaCONES) and can store 17,000 vials worth of samples.
- So far, genetic resources from 23 species of Indian wild animals have been collected and preserved. However, it is planned to contain genetic resources from 250 species in the beginning.

Utility of the institute

- This facility would **increase the collection** of genetic resources from wildlife by **facilitating exchange of genetic material** between Indian zoos for maintaining genetic diversity.
- It would also facilitate research work.

Related Information

Wildlife Genetic Resource Banking (GRB) is a systematic collection and preservation of tissues, sperm, eggs and embryos, genetic material (DNA/RNA) of living beings.

Laboratory for Conservation of Endangered Species

- It is a dedicated laboratory of the CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad.
- It is the only institute in the country working towards conservation of endangered wildlife using modern biotechnologies to save endangered wildlife species of India.

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New Elephant Reserve

Why in News?

Recently, Nagaland government declared the **Singphan Wildlife Sanctuary** as an Elephant Reserve, with the approval of central government.

About the Singhphan Elephant Reserve

- It is located in Mon district of Nagaland and spreads over an area of 5825 acres.
- It has huge tracts of forest, strategically located in contiguity with the Abhaypur Reserve Forest of Assam.
- Presently, elephant distribution habitat in Nagaland is highly fragmented, this move will give better protection and conservation of elephants in the state.
- After the declaration it became the 30th Elephant Reserve in the country.

Other Protected areas in Nagaland

Intanki National Park, Puliebadze Wildlife Sanctuary, Fakim Wildlife Sanctuary and Rangapahar Wildlife Sanctuary.

Related Information

Status of elephant conservation;

- Elephant is **National Heritage Animal** and categorised as **Endangered** under IUCN list.
- It is under **schedule I of the Indian Wildlife (Protection) Act, 1972** and in **Appendix I** of the Convention on International Trade in Endangered Species of Flora and Fauna **(CITES).**
- **Singhbhum Elephant Reserve** in Jharkhand is the first Elephant Reserve of the Country.
- Karnataka has the highest number of elephants followed by Assam and Kerala respectively.

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Cheetah Reintroduction Project

Why in news?

Madhya Pradesh forest department seeks to revive the plan to reintroduce Cheetahs in **Nauradehi sanctuary**.

About the Plan

- National Tiger Conservation Authority (NTCA), is nodal agency for the Cheetahs reintroduction plan.
- In 2009 **Project Cheetah** was launched and Kuno Wildlife Sanctuary (MP) and Shahgarh area in Rajasthan were also identified as other two sites for cheetah reintroduction plan.
- Nauradehi was found to be the most suitable area for the cheetahs as its forests are not very dense to restrict the fast movement of Cheetahs.

Related Information About Cheetahs

- It was declared **extinct in India** in 1952 and last spotted in Chhattisgarh 1947.
- The only mammal to become extinct in India in last 1,000 years.
- **IUCN status:** Vulnerable

National Tiger Conservation Authority

- It is a statutory body and has overarching supervisory/coordination role as provided in the Wildlife (Protection) Act, 1972.
- It approves the Tiger Conservation Plan prepared by the State Governments.

Significance of the move

- It will make India the only country in the world to host six of the world's eight large cats, including lions, tigers, jaguars, panthers and leopards.
- Cheetah is the flagship species of the grasslands. This will help dryland ecosystems of India to return to their natural state.

Issue Involved

- Earlier plans for reintroduction of Cheetah have been stalled due to insufficient funds and inadequacy of field assessment.
- Some wild life experts are on the view that the introduction of African cheetah may act as an alien species to the native ecosystem which might generate negative effects on indigenous wild life species.

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Kaziranga National Park

Why in news?

The Kaziranga National Park (KNP) had been split into two divisions — the existing Eastern Assam Wildlife and the new Biswanath Wildlife park with Brahmputra flowing in between.

More on news

- The Kaziranga South Division will cover all areas of Kaziranga situated on the south bank of the Brahmaputra with existing four Ranges viz. Kaziranga (Kohora), Eastern Range (Agaratoli), Western Range (Bagori) and Burhapahar Range.
- The **headquarters of the North division** will be at Biswanath with three ranges under this division at Biswanath, Panpur and Gohpur (Gomeri). The Panpur Range and the Gohpur Range (Gomeri) will be newly created under the proposed Kaziranga North division.

Reason for Bifurcation

Due to expansion of area under the KNP, it became difficult for one division to manage the National Park and because of this these areas did not get the desired attention. Specific issues faced are-

- **Poachers remained un-convicted** due to large area of the park, which can now be curbed better as it mostly happened in the northern region, and officers from the southern side were unable to prevent it.
- The **funds allocated** were not only under-utilised but were largely unused, with bifurcation separate authorities will be more accountable.
- It will also **ease overcoming staff shortage** as northern region can now recruit from northern Assam separately and so with the southern region.

Tourism was also suffering largely due to above mentioned reasons, bifurcation will lead to better management and increased visitation and hence, the revenue.

Criticism

It is predicted that this decision may have benefits in the short run, but in the long run it may-

- come at the cost of the ecology, road and river network.
- result in increased noise an air pollution due to increased footfall.
- make the animals more 'zoo-like', and hence tamer, taking away the sense of adventure that attracts tourists to the Kaziranga National Park.

About the Kaziranga National Park

- Kaziranga protected area was established in **1904** and is located on the edge of the Eastern Himalayan biodiversity hotspot. It is a **UNESCO world heritage site**.
- The park is home to large breeding populations of elephants, wild water buffalo, and swamp deer other than the one-horned rhino.
- Kaziranga is recognized as an '**Important Bird Area'** by Birdlife International for the conservation of avifaunal species.
- There are five ranges in the Eastern Assam Wildlife Division. These are Kaziranga (Kohora), Eastern Range (Agaratoli), Western Range (Bagori), Burhapahar Range and Northern Range with headquarters at Biswanath. Of these ranges, four are located on the southern bank of the Brahmaputra, while the Northern Range is located on the north bank of the river.

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New Influenza Research Programme

Why in news?

Recently, Indian and European Union (EU) collaborated for new influenza research programme to develop Next Generation Influenza Vaccine.

About the programme

- The programme will get fund of EUR 15 million under EU funding programme for research and innovation called **'Horizon 2020' (see box).**
- It aims at further advancing the next generation influenza vaccine with improved efficacy and safety, duration of immunity, and reactivity against an increased breadth of influenza strains.

Horizon 2020

- It is the biggest EU Research and Innovation programme with nearly €80 billion of funding available over 7 years (2014 to 2020).
- It is helping to achieve research and innovation on excellent science, industrial leadership and tackling societal challenges.

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Bacteria Wolbachia

Why in news?

Recently successful experiments were conducted in Australia, which demonstrated the positive correlation between presence of Wolbachia bacteria in mosquitoes and reduced spread of diseases such as Malaria and Dengue.

More on news

- Wolbachia is a tiny bacterium that is present in up to **60% of all species of insects, including several mosquito species.**
- But it is usually not present in the Aedes aegypti mosquito, the primary species responsible for transmitting dengue, chikungunya and Zika.
- Wolbachia is one of the world's most common parasitic microbes and possibly the most common reproductive parasite in the biosphere.
- When present in the mosquito, the viruses cannot replicate and hence small numbers of wolbachia-carrying mosquitoes are released in target areas.
- The World Mosquito Program introduces Wolbachia into Aedes aegypti mosquitoes. Once Wolbachia carrying mosquitoes are released, they breed with wild mosquitoes and over time, the majority of mosquitoes carry Wolbachia.
- This new method provide bio-control approach to handle these diseases.
- In 2017, there were 1.9 lakh dengue cases and 325 deaths in the country. Until July this year, there have been 15,000 cases and 38 deaths. This method may help reduce such incidences of these diseases.

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Repurpose Used Cooking Oil (RUCO)

Why in news?
Recently, FSSAI launched Repurpose Used cooking Oil (RUCO) initiative.

Background
- Earlier, food safety regulator notified standards for used cooking oil.
- **National Policy on Biofuels 2018** has categorized biodiesel as First Generation (1G) bio-fuel and it also encourages setting up of supply chain mechanisms for biodiesel production from Used Cooking Oil.
- FSSAI is also looking at introducing regulations to ensure that companies that use large quantities of cooking oil maintain a stock register and hand it over to registered collecting agencies to convert it into biofuel.

About UCO standards
- According to FSSAI regulations, the maximum permissible limits for **Total Polar Compounds** (TPC) in cooking oil have been set at **25 per cent**.
- TPC is formed due to **repeated frying** and usage of edible oil which changes its physiochemical and nutrition properties making it unfit for human consumption.
- TPCs above the set level cause hypertension, atherosclerosis, Alzheimer's disease, liver disease etc.
- **FSSAI** is working in partnership with **Biodiesel Association of India** (BDAI) and the food industry to ensure effective compliance of UCO standards.
- FSSAI is also implementing a '**Triple E strategy**' - **Education, Enforcement and Ecosystem** to divert UCO from the food value chain and curb current illegal practices.

Related information
- Cooking oil may have saturated fatty acids (palm oil) or unsaturated fatty acids (soyabean).
- The saturated fatty acids such as in palm oil are more stable that the unsaturated fatty acids which decompose easily at high temperature forming **polar compounds**.
- Thus, it makes oils with saturated fatty acids fit for frying. However, oils with unsaturated fatty acids are healthier provided they are used just once for frying.

About Repurpose Used Cooking Oil Initiative
- It has been launched with an aim to enable collection and conversion of used cooking oil to bio-diesel.
- Under this around 64 companies at 101 locations have been identified to enable collection of used cooking oil.
- **Significance:**
  - India has the potential to recover 220 crore litres of used cooking oil for the production of biodiesel by 2022 if co-ordinated actions are taken.
  - It is environment friendly because as of now cooking oil is either not discarded or disposed in an environmentally hazardous manner, thereby, choking drains and sewerage systems.
  - It would promote public health as the initiative would prevent diversion of UCO to smaller restaurants, dhaabas and street-vendors.

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Start Up India's Academia Alliance Program

Why in news?

Recently, Start-up India launched Startup Academia Alliance Program.

About Academia Alliance Program

- It is a **unique mentorship opportunity** between academic scholars and start-ups to promote **the spirit of entrepreneurship** in the country.
- It aims to **reduce the gap** between **scientific research and its industrial application** in order to increase the efficacy of technology and widen its impact.
- It strives to implement the third pillar on which the Startup India Action Plan is based - Industry Academia Partnerships and Incubation. The other two being Simplification and Handholding & Funding Support and Incentives
- It has been partnered by Regional Centre for Biotechnology, The Energy and Resources Institute (TERI), Council on Energy, Environment and Water, and TERI School of Advanced Studies to provide mentorship and guidance to relevant start-ups in the field of renewable energy, biotechnology, healthcare etc.

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Innovation Cell

Why in news?

MHRD recently launched the Innovation Cell at All India Council of Technical Education (AICTE) premises with a purpose to systematically foster the culture of Innovation in all Higher Education Institutions (HEIs) across the country.

Details

The primary mandate of Innovation Cell is to encourage, inspire and nurture young students by exposing them to new ideas and processes resulting in innovative activities in their formative years fostered through Network of Innovation clubs in Higher Educational Institutions.

Major Programs

- **Network of Innovation Clubs (NIC)** - details will released soon by the ministry.
- **Atal Ranking of Institutions on Innovation Achievements (ARIIA)** - to systematically rank education institutions and universities primarily on innovation related indicators. It will primarily focus on 5 main parameters -
  - Budget expenses and revenue generated through innovation and entrepreneurship
  - Facilitating access to advance centres/facilities and entrepreneurial support system
  - Idea to entrepreneurship
  - Development of innovation ecosystems supported through teaching and learning
  - Best innovative solutions developed in-house for improving governance of your institution
- **Smart India Hackathon (SIH) 2019** - to provide students a platform to solve some of pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem solving.

National Student Startup Policy (NSSP) - launched in 2016 to guide AICTE approved institutions to promote student driven innovations and start-ups. The policy aims at identifying the innovative and entrepreneurial potential of students and transforming them into start-up entrepreneurs. This can be done by developing an ideal entrepreneurial ecosystem and promoting strong inter-institutional partnerships among technical institutions, other ecosystem enablers, different stakeholders, programs, market and society.

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Science And Technology In Sports

- Innovation, design and application of technology to competitive sport is of paramount importance to athletes looking to **optimize their best possible performance** in the future.
- Enhance athletic performance by **reducing stress/injury via support aids and equipment and training technologies**
- Technology has greatly **improved protective equipments** in sports such as mouth guards and headgear
- Computer technology has **improved training regimes** for athletes through uses computer analysis to monitor performance as well as **virtual practice.**
- **Wearable Technology:** Coaches can use wearable tech to understand how an athlete is performing compared to their previous training sessions or games
- **The use of non-human decision-making** in sports such as Cricket, tennis etc. for clear decision and better outcome.

Technological Advancements in Sports

- **Hawk-Eye Technology:** It helps to take an error-free decision in cricket, lawn tennis, rugby league, football, and baseball. This technology has reduced the criticism of the players and spectators about the decision of the match referee.
- **HANS (Head and Neck Support) device** used in motorsports saving the lives of driver in the event of a tragic crash.
- **Whole body polyurethane swim** suits which contains polyurethane membrane which decreases the drag by 24% compared to other suits
- **Prosthetic Devices** for Disabled Athletes
- **Ingestible Thermometer Pills** which supervise visceral organs, temperature and heart rate of an athlete and transmits vital information to medical personnel. It will help to minimize death from heat exhaustion which is the second most common reason for athlete fatalities.

Issues and Challenges

- **Fairness**: The use of technological applications is used as tool to gain a **'competitive advantage'** in sports.
  - Modern runners and climbers benefit from shoe technology that's better suited to their sports.
  - In cycling, riders wear advanced fabrics to maximise aerodynamics and optimise core body temperature while using different bikes based on terrain or effort.
- **Accessibility:**
  - If the equipment is too technically difficult to use then amateurs will have to move onto something else.
- **Affordability**:
  - If sports equipment and technology is too expensive then very few future athletes will be able to participate.
  - Part of the controversy around swimsuits was the fact that only athletes with the right sponsors could access them.
- **Safety**:
  - Headgear in amateur boxing was adopted to provide extra protection to its athletes. But it gives a boxer an increased sense of invulnerability. That's why there has not been reduction in the number of recorded head injuries since headgear was introduced.
- **De-skilling' a sport**: De-skilling insinuates that a sport is made easier to undertake as a result of the introduction of a technology or product.
  - The sport of aeromodelling has suggested that performance enhancements made to the planes design and controls would reduce the technical skill required to fly the planes
- **Governing body oversight issues:**
  - Having multiple governing bodies of the same sport which operated in

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different countries has caused issues whereby an innovation was accepted by one governing body but not by another

- **Doping**: It is the use of banned athletic performance enhancing drugs by athletic competitors.

Way forward

- Sports are based on rules, and by setting those rules, we can choose which technologically enabled enhancements are allowed.
- Only if it is a piece of technology that helps someone run faster, it could be banned.

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Digital North-East Vision 2022

Why in News?

Recently government released **'Digital North East: Vision 2022'**, that aims to leverage digital technologies to transform lives of people of the northeastern states and enhance the ease of living.

More on news

- Under the Digital India programme government had earlier taken various digital initiative in North east such as: State Wide Area Network, Common services centre, National Knowledge Network, SMS based agricultural extension services etc.
- The Vision document aims to consolidate all the disparate digital initiatives with a view to restructure, refocus, and fast track implementation in a synchronised manner.
- **Launched under the Digital India programme** it will be coordinated by the **Ministry of Electronics and Information Technology** and will be implemented by various central government ministries and governments of north eastern states,
- The document identifies **eight digital thrust areas** -digital infrastructure, digital services, digital empowerment, promotion of electronics manufacturing, promotion of IT and IT enabled services including BPOs, digital payments, innovation & startups, and cyber security.
- It seeks to utililise the strengths and opportunities in the North East Region (NER):
  - **Strategic location:** The Act East policy of the government places the NER in very advantageous position to open up e-trade and commerce with the neighbouring countries and the ASEAN region.
  - **Literacy rate:** Literacy rate in NER are higher than the rest of India which provides pool of an easily skill-able workforce.
  - **Distinct Seismic Plate:** As per the Seismic Zoning Map of India, some of the North East States reside in a different seismic zone compared to rest of India, making it an ideal destination for call centres, disaster recovery stations for Tier 3 and Tier 2 cities.
  - **Cultural heritage:** The North East Region is home to more than 220 different tribes and communities, each having their unique culture, languages, handicraft and tradition. Digital repositories of such artefacts will create opportunity for massive digitisation.
  - **Natural resources:** The abundance of natural resources provides scope for developing industries in herbal products, Ayurveda, fruit processing, precision agriculture etc.
- The north eastern region is uniquely placed vis-à-vis the digital profile of India and the region has inherent strengths to be built upon and possess vast opportunities to be tapped for the overall development of India.

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Digital Payment

Why in news?

NITI Aayog recently pointed out that the digital payments market in India is set to become a trillion-dollar industry in the next five years, led by growth in mobile payments which are slated to rise to $190 billion by 2023 from $10 billion in 2017-18.

About Digital Payment in India

- **The Payment and Settlement Act, 2007 defines Digital Payments/electronic funds transfer** as any transfer of funds which is initiated by a person by way of instruction, authorization or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment.
- The payment system can be bifurcated into **two main segments**:
  - The first segment consists of instruments which are covered under **Systemically Important Financial Market Infrastructure (SIFMIs)** and the second segment consist of **Retail Payments.**
  - **Financial Market Infrastructure (FMI)** is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions. Under this segment there are four instruments of payments: Real Time Gross Settlement, Collateralized Borrowing and Lending Obligation, Forex Clearing and Government Securities.
  - Under the **Retail Payments segment** which has a large user base, there are three broad categories of instruments. They are Paper Clearing, Retail Electronic Clearing and Card Payments which includes Cheque Truncation System, National Electronic Funds Transfer, Unified Payments Interface, Immediate Payment Service etc.
- India's payment system - particularly, its digital payments system - has been evolving robustly over the past many years, spurred by developments in information and communication technology.
- Digital payment is a primary tool to move to a 'less cash' economy since the cash to GDP ratio in India is one of the highest in the world at about 12%.
- The **user base for digital transactions in India is currently close to 90 million** and could triple to **300 million by 2020** as new users from rural and semi-urban areas enter the market.
- The year-on-year growth of digital payments in 2017-18 was 44.6% which was nearly double the growth in volume for the period 2011-2016.
- Transactions relating to IMPS, PPI and Debit card had exhibited growth rates in triple digits in the year 2016- 17.

Benefits

- Digital payment is **faster, easier, more convenient** than cash transactions.
- It **enables increased levels of financial participation** and inclusion.
- It **promotes more transparency and accountability** and decreases the size of the grey or informal economy.
- It **stores digital record of transactions** which customers can track.
- It helps to keep black money under control and also **increases tax compliance**.
- It **reduces cost of transactions**. No additional cost of printing cash is involved with digital payments. A 0.4% reduction

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in cost of cash can also boost savings by 4 trillion by 2025.

- Economic growth is increased by increasing the level of spending in the economy due to digital payment.
- It hinders the terror financing network and circulation of counterfeit notes.

Challenges

- **Unbanked population:** about 19 percent of the Indian population is still **outside the banking net** which is a major hurdle to digital payments.
- **Low internet penetration:** Internet penetration in urban India was 64.84% in December 2017 and rural internet penetration was just 20.26%.
- **Low levels of digital literacy:** Approx. 40% population is living below poverty line, illiteracy rate is more than 25-30% and digital literacy is almost no-existent among more than 90% of India's population.
- **Lack of resources:** Small Service providers don't have enough **resources** to invest in electronic payment infrastructure. (e.g. Point-of-sale terminals).
- **Cyber threats:** Cyberattacks can cause personal and commercial data to be lost or compromised causing financial institutions financial loss. Based on estimates, cyberattacks cost the global economy 1% of annual GDP.
- **Regulatory hurdles:** The majority of the mobile payment service providers are non-compliant with the strict provisions for dealing with sensitive personal data including financial data as mandated by IT Act, 2000 and rules under it. Also IT Act is not comprehensive. India lacks laws to protect consumers if they lose money.
- **Cash dependent economy:** 92% of the Indian economy is made up of informal workers, who contribute around 50% of the GDP; 80-90% of these workers are paid in cash. Mediums like smartphones and internet connectivity are still unaffordable to a sizeable population thus denying them access to digital forms of transaction.

Initiatives taken to promote digital payments:

- **The National Payments Corporation of India (NPCI)** was established in 2008 to spearheading the development of the retail payments system.
- Various important milestones attained in the development of the payments system include the introduction of MICR clearing in the early 1980s, Electronic Clearing Service and Electronic Funds Transfer in the 1990s, issuance of credit and debit cards by banks in the 1990s, the National Financial Switch in 2003 that brought about interconnectivity of ATMs across the country, the RTGS and NEFT in 2004, the Cheque Truncation System (CTS) in 2008, the second factor authentication for the 'card not present' transaction in 2009 and the new RTGS with enhanced features in 2013.
- These measures have been complemented by significant initiatives by the NPCI including the launching of grid- wise operations of CTS, RuPay (a domestic card payment network), Aadhaar Payments Bridge System and Aadhaar Enabled Payment System, National Unified USSD Platform (NUUP), UPI and the BHIM application.
- For promotion of the BHIM app, the Government had approved schemes namely 'Referral Bonus scheme for individuals' and 'Cashback scheme for merchants' for a period of 6 months
- Settlement at half-hourly intervals was introduced in the National Electronic Funds Transfer (NEFT) system.
- **Rationalisation of Merchant Discount Rate** was undertaken to provide a boost to digital payments.
- The digital infrastructure called the "**JAM**" trinity by interlinking of Jan Dhan, Aadhaar and mobile numbers was a major landmark.
- Furthermore, **non-bank entities have**

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been introduced in the issuance of pre-paid instruments (PPI), including mobile and digital wallets.

- Reserve Bank of India has also decided that all system providers shall ensure that the entire **data relating to payment systems operated by them are stored in a system only in India** to ensure better monitoring.
- **DigiShala:** Free Doordarshan DTH educational channel for creating awareness regarding various forms of electronic payment.
- **Vittiya Saksharta Abhiyan** of Ministry of Human Resource Development aims to actively engage the youth/ students of Higher Education Institutions to encourage and motivate all payers and payees to use a digitally enabled cashless economic system for transfer of funds.
- A Committee on Digital Payments was constituted in 2016 under **Ratan Watal** to recommend measures for promotion of Digital Payments Ecosystem in the country.

Recommendations of Ratan Watal Committee

- It recommends for **creation an independent payments regulator** within the framework of the Reserve Bank of India (RBI) or give independent status for the RBI's Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) to be called the Payments Regulatory Board (PRB).
- It had also suggested **interoperability between banks and non-bank digital payment gateways/entities** as well as within non-banks.
- Other major suggestions have been creation of a fund for promotion of digital transactions, withdrawal of all charges on digital-based transactions by the government, with special emphasis on low-value transactions (that are mainly financed by cash).
- It had also asked RBI to upgrade the existing real- time gross settlement system (RTGS) and National Electronic Funds Transfer (NEFT) systems so that they operate on a 24/7 basis.
- It also called for mandating government departments and agencies to provide options to consumers to pay digitally as well as incentivize consumers to make payments (including payment of fines and penalties) to the government electronically by giving a discount or cashback.

Way forward

For smooth implementation of cash less system in India, a wide variety of measures are needed by the Government. It will have to bring transparency and efficiency in e-payment system, strategies licensing payment banks, promoting mobile wallets and withdrawing service charge on digital payments, etc.

- **Reducing the digital divide** and increasing the awareness in the rural public.
- **Ease the complexities and enable end-of-day settlement process for the merchants** (As small retailers and merchants need rotation of cashflow in quick turnaround time for their business operations).
- **Reduce the transaction charges** over the digital payments and discourage cash transactions.
- **ICT infrastructure** plays a vital role in successful adaptation of digital payments and hence there is intrinsic need to improve and offer requisite infrastructure for digital payments.
- Emphasis on integrated system of digital payments that can reduce the existing challenges and support in quality outcome (For instance, ensuring more stringent laws for security breach, IT ACT for digital payment transactions etc.)

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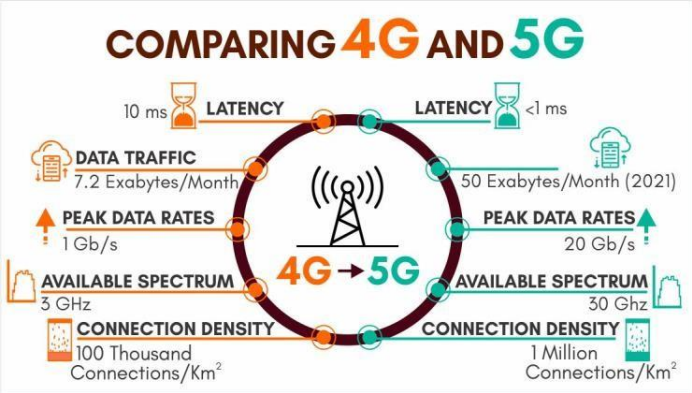
5G



Why in news?

The Steering Committee constituted for identifying the 5G deployment roadmap for India recently submitted report titled 'Making India 5G Ready'.

Background

- Mobile wireless generation generally refers to a change in the nature of the system, speed, technology, frequency, data capacity, latency etc.
- Each generation has certain standards, different capacities, new techniques and new features which differentiate it from the previous technology.
- **First Generation (1G)** mobile wireless communication network was analog and was used for voice calls only. Its basic features were – speed of 2.4kbps, voice calls in one country only, use analog signal, poor voice quality etc.
- **Second Generation (2G)** is a digital technology and supports text messaging. Next to 2G. 2.5G system uses packet switched and circuit switched domain and provide data rate upto 144kbps e.g. GPRS, CDMA etc.
- **Third Generation (3G)** mobile technology provided high data transmission rate, increased capacity and provided multimedia support. The aim of this technology was to provide high speed data and offers data services, access to television/videos, new services like Global Roaming etc. It used Wide Band Wireless Network with which clarity is increased.
- **Fourth Generation (4G)** integrates 3G with fixed internet to support wireless mobile internet which is an evolution to mobile technology and it overcomes the limitations of 3G. Long Term Evolution (LTE) is considered 4G technology.

What is 5G?

- 5G is a wireless communication technology using **radio waves** or radio frequency (RF) energy to transmit and receive data.
- It is the next generation mobile networks technology after 4G LTE networks. 5G technologies will enter services gradually, beginning in 2019 and advance to a full range of services by 2024.
- The final standard for 5G will be set up by the **International Telecommunications Union (ITU).**
- Technical specification for 5G –
  - **high data rates** (1 Gbps for hotspots, 100 Mbps download and 50 Mbps upload for wide-area coverage)
  - **massive connectivity** (1 million connections per square kilometre)
  - **ultra-low latency** (1 millisecond)
  - **high reliability** (99.999% for mission critical 'ultra-reliable' communications), and
  - **Mobility at high speeds** (up to 500 km/h i.e. high-speed trains).
- The technology is still a long way from becoming a reality but it has the potential to completely change the way we interact with wireless devices.

Advantages of 5G

- **Faster Data Speed** – Currently 4G networks are capable of achieving the peak download speed of one gigabit per second. With 5G the speed could be increased upto 10Gbps.
- **Ultra-low latency** – Latency refers to the time it takes for one device to send a

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packet of data to another device. In 4G the latency rate is around 50 milliseconds but 5G will reduce that to about 1 millisecond.

- **A more Connected World** – 5G will provide the capacity and bandwidth as per the need of the user to accommodate technologies such as **Internet of Things**. Thus, will help to incorporate **Artificial Intelligence** in our lives.
- As per the **OECD (Organization for Economic Cooperation and Development) Committee** on Digital Economic Policy, 5G technologies rollout will help in **increasing GDP, creating employment and digitizing the economy.**
  - The cumulative economic impact of 5G on India can reach one trillion USD by 2035. It will help aid incorporation of **Artificial Intelligence** in our lives and will enable Smart devices to exchange data seamlessly providing the ecosystem for Internet of Things (**IoT**).
  - In agriculture, 5G can enable improvement in the entire value-chain, from precision farming, smart irrigation, improved soil and crop monitoring, to livestock management.
  - In manufacturing, 5G will enable use of robotics for precision manufacturing, particularly where humans cannot perform these functions safely or accurately.
  - In the energy sector, 'smart grids' and 'smart metering' can be efficiently supported. With the rise of renewable and storage technologies, low latency communications will be critical to manage these grids.
  - Vehicle platooning can double vehicle density in roads promoting efficient and safer use of the limited road infrastructure.
  - In health-care, 5G can enable more effective tele-medicine delivery, tele-control of surgical robotics and wireless monitoring of vital statistics.

Challenges

- **Integration of various standards** – There are already multiple groups working to come up with standards around interoperability, backward compatibility with older technologies etc. Thus, standardization becomes a major challenge faced by 5G.
- **Common Platform** – There is no common architecture for interconnecting various engineering practices. Therefore, a common governing body should develop a common platform for all engineering practices.
- **Building Infrastructure** - It is a huge task, with issues around spectrum and installing new antennas.
- **Obstacles** – Like buildings, trees and even bad weather can cause interruptions which would require more base stations to be built to ensure better connections.
- India lacks a strong backhaul to transition to 5G. Backhaul is a network that connects cells sites to central exchange. As of now 80% of cell sites are connected through microwave backhaul, while under 20% sites are connected through fibre. The former has bandwidth issues as it uses traditional bands while the latter provides low latency and unlimited capacity (a prerequisite for 5G).
- The Indian market is yet to adapt to 4G completely and has not fully evolved to experience an AI revolution.

Steps taken

- The Government has launched a program titled '**Building an End-to-End 5G Test Bed'**. The program envisages close collaboration between the universities and small technology companies to build broadly compliant with the 3GPP standards.
- A 5G High Level Forum was set up by the Government in September 2017 to articulate the Vision for 5G in India and to recommend policy initiatives and action plans to realize this vision.
- Several smaller academic R&D programs around 5G themes have also been funded by DST and MEITY.

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Ericsson has installed the first public access 5G test bed at IIT Delhi.

Key Recommendations

- The committee spells out **three priority areas** for India in 5G :
  - o Deployment – rolling out early, efficient and pervasive 5G networks
  - o Technology – building India's industrial and R&D capacity in 5G
  - o Manufacturing - expanding the manufacturing base in 5G for both semiconductor fabrication as well as assembly & test plants
- **Spectrum Policy:** India's spectrum allocation for public wireless services should be enhanced significantly. Also, the cost of spectrum relative to per capita GDP is high and should come down.
- **Regulatory Policy:** Three expert **committees on business, security and safety** segments to be created to develop clear guidelines on regulatory policy.
- **Education and Awareness Promotion Program:** The Committee recommends **three initiatives**
  - o Attract global 5G conference events to India
  - o Set up national 5G events and
  - o Create a comprehensive skills development program.
- **Setting up applications and Use Case Labs:** It can provide multiple functions – interoperability, testing for new applications, fostering innovation, etc. within different economic sectors.
- **Participation in International Standards:**
  - Short term initiatives like setting up 'Standards Project Teams' to participate in standards activities.
  - Long term initiatives like expert committee should be constituted to recommend a ten year strategy for Information Technology Standards in India.
- **Technology Demonstration and Major Trials**: 5G trials will be an important learning opportunity for our Telecom Service Providers (TSP), academia and industry.
- Create a **5G Program Office within Department of Telecommunications and an Oversight Committee.**
- New civil infrastructure like highways, roads, canals and utilities(gas, electricity, water) lines should be mandated to provision Common Telecom Infrastructure resources such as ducting and power junction boxes to support 5G infrastructure.
- Security audits, a prerequisite for importing of equipment before deploying in Indian networks, needs to be simplified.

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Drone Regulations In India

Why in News?

Ministry of Civil Aviation (DGCA) has for the first time released a set of rules regulating the civil use of drones in India which will be effective from 1st December, 2018.

What are drones?

- Drones or unmanned aerial vehicles (UAVs) have been defined as: "Powered, aerial vehicles that do not carry a human operator, use aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload."
- **Applications of UAVs**
  - **Damage assessment** of property and life in areas affected with natural calamities, surveys, critical infrastructure monitoring.
  - **Security function**: Drones are used by Armed Forces for tactical purposes at border.
  - **Surveillance and Crowd Management**: It is used for effective and smooth conduct of events like Kumbh Mela etc.
  - **Monitoring of wildlife**: UAV are deployed these days for better counting and guarding unreachable region.
  - **Agriculture: SENSAGRI (SENsor based Smart AGRIculture)** is a drone-based crop and soil health monitoring system using hyperspectral remote sensing (HRS) sensors.
  - **Mode of Delivery**: Many e-commerce companies are using it for delivering their product like Amazon.
  - **Other uses:** For surveys, infrastructure monitoring, commercial photography, aerial mapping etc.

Current Scenario

- According to a research the Indian drone market will reach USD 885.7 million by 2021, and the global market size will touch USD 21.47 billion.
- The International Civil Aviation Organization (ICAO) has been the primary platform leading the global drone governance efforts. The ICAO has issued several rules in the form of circulars and manuals but has not come up with comprehensive guidelines.
- India has had military drones – or Unmanned Aerial Vehicles (UAV) – for many years and is also developing combat versions. But the use of drones for civilian purposes remain underdeveloped, because regulations regarding the technology were not yet fully established.
- The absence of well-defined regulations had made innovation and attracting investments very difficult in this field, and the new rules are expected to ease manufacture and use of drones in the country.

Key features of the Regulations for Civil Use of Remotely Piloted Aircraft System (RPAS)

- **The Digital Sky Platform** is the first-of-its-kind **national unmanned traffic management (UTM) platform** that implements "**no permission, no takeoff**" (NPNT).
  - The UTM operates as a traffic regulator in the drone airspace and coordinates closely with the defence and civilian air traffic controllers (ATCs) to ensure that drones remain on the approved flight paths.
  - Before every single flight, drone pilots are required to request permission to fly via a mobile app, which will automatically process the request and grant or reject it.
  - If a drone pilot tries to fly without receiving permission from the Digital Sky Platform, he or she will simply not be able to take-off.
- Users will be required to do a **one-time registration** of their drones, pilots and

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owners. All civil RPA, shall require to obtain **Unique Identification Number** (UIN) from DGCA.

- As per the regulation, there are 5 categories of Remotely Piloted Aircraft System (RPAS) categorized by weight, namely
  - Nano (Less than or equal to 250 grams),
  - Micro (250 grams to 2kg),
  - Small (2kg-25kg),
  - Medium (25kg-150kg) and
  - Large (Greater than 150kg).
- Operators of civil drones will **need to get a Unmanned Aircraft Operator Permit (UAOP) from the DGCA** with certain exceptions such as RPA owned and operated by NTRO, ARC and Central Intelligence Agencies.
- The DGCA has to issue the UAOP within seven working days and it shall be valid for five years and not transferrable.
- RPAS shall be flown only by someone **over 18 years of age, having passed 10th exam in English**, and undergone ground/ practical training as approved by DGCA.
- DGCA has also clarified that **no remote pilot can operate more than one RPA at any time**.
- The basic operating procedure will **restrict drone flights to the daytime only** and that too within "Visual Line of Sight (VLOS)".
- Manned aircraft will be given priority. There can't be any human or animal payloads, or anything hazardous.
- It cannot in any manner cause danger to people or property.
- An **insurance will be mandatory** to cover third-party damage.
- Minimum manufacturing standards have been prescribed for RPAS.
- **Restrictions placed:**
  - RPAS cannot be flown within 5km of the perimeters of the airports in Mumbai, Delhi, Chennai, Kolkata, Bengaluru and Hyderabad and within 3km from the perimeter of any other airport.
  - It cannot fly within "permanent or temporary Prohibited, Restricted and Danger Areas" and within 25km from international border which includes the Line of Control (LoC), Line of Actual Control (LAC) and Actual Ground Position Line (AGPL).
  - It cannot fly beyond 500 m into sea from the coast line and within 3 km from perimeter of military installations.
  - It also cannot fly within a 5 km radius of the Vijay Chowk in Delhi, within 2 km from perimeter of strategic locations/ vital installations notified by Ministry of Home Affairs and within 3 km from radius of State Secretariat Complexes.
  - It also cannot be operated from a mobile platform such as a moving vehicle, ship or aircraft.
  - Eco-sensitive zones around National Parks and Wildlife Sanctuaries are off-limits without prior permission.

Conclusion

- The Drone Policy is a big step taken by GOI towards regulating drones in India. It shows GOI's commitment to use of artificial intelligence for technological and economic growth.
- However, the involvement of multiple regulatory agencies and compliances/clearances will discourage the players.
- Further, drones cannot be used as of now for delivery of food/ other items, or to carry passengers.
- There are restrictions on drone operations in India by foreign players (except through a license to an Indian entity).
- Government has setup the Drone Task Force under the chairmanship Jayant Sinha which will provide draft recommendations for Drone Regulations 2.0.

Concerns regarding use of drones

- **Potential threat**: Its use poses a **security threat**, and has the potential for **invading**

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privacy. Owning to the privacy and security concerns Directorate General of Civil Aviation (DGCA) had earlier banned the launch of any UAVs in India.

- The airspace over Indian cities already has a high density of aircraft traffic and unregulated use of drones poses a grave **threat for air collisions and accidents.**
- **Drone traffic management:** It will require planned research and practical experimentation. Small drones fly at low altitudes and are more susceptible to changing weather conditions. Strong winds and rains can easily knock them off course, out of their designated operating zones.
- **Drones as weapons:** They are considered a cost- effective weapon system with no risk to operators. Thus, they are being portrayed as weapons of future warfare.
- There is possibility of drones being misused by terrorists, criminals, drug cartels and other antisocial groups.

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Gaganyaan Mission

Why in News?

Recently the Prime Minister in his Independence Day speech announced that ISRO will be sending its first human spaceflight mission into the space by 2022.

Background

- In 2004, the manned space mission was first endorsed by the ISRO Policy Planning Committee with the target initially set was in 2015, preparations have been going on since then.
- ISRO has successfully demonstrated some of the technologies required for the mission such as **Space Capsule Recovery Experiment (SRE-2007)**, **Crew module Atmospheric Reentry Experiment (CARE-2014)**, **GSLV Mk-III (2014), Reusable Launch Vehicle- Technology Demonstrator (RLV-TD), Crew Escape System (July 2018)** and **Pad Abort Test (2018).** ISRO also recently unveiled a **space capsule** (crew module) and **Space suit prototype**.
- ISRO has also finalized the layout and design of **Environmental Control & Life Support System (ECLSS)** which maintains a steady cabin pressure and air composition, removes carbon dioxide and other harmful gases, controls temperature and humidity, and manages parameters like fire detection and suppression, food and water management, and emergency support.

Specifications

- GSLV Mk-III launch vehicle will be used to launch Gaganyaan. Two unmanned Gaganyaan missions will be undertaken prior to sending humans, with first unmanned flight within 30 months.
- The total programme is expected to be completed before 2022 and cost is expected to be less than Rs. 10,000 Crores.
- The mission will aim to send a three-member crew to space for a period of five to seven days. The spacecraft will be placed in a low earth orbit of 300-400km.
- This will be the **first human mission indigenously developed by ISRO**, though to accelerate the programme, ISRO may consider collaborations with space agencies from friendly countries.
- It will comprise of a crew module and service module that constitute an **orbital module**. The crew will do microgravity experiment during the mission.

Need for Gaganyaan

- **Potential for an enormous range of experiments in regard effects of microgravity and cosmic radiation** on bio-organisms ranging from bacteria and plants to large mammals. Some of the research at the International Space Station (ISS) has already started paying off in concrete terms, for instance, it has led to huge advances in multiple technologies ranging from weather research to disaster management to ballpoint pens.
- **Putting humans into space has also led to massive advances in medical technologies and basic understanding of functioning of human bodies:** For instance, microgravity can lead to a debilitating loss of muscle and bone density. Scientists have developed technologies and fitness mechanisms that have been breakthroughs in the treatment of osteoporosis and maintaining muscle mass.
- **Many of the present technologies were result of space research:** Telemedicine, including miniaturized ultrasound units and remote monitoring systems were developed through space research. Similarly, development of laser surgery and robotic surgery was a result of developing better laser technology as part of space technology.
- **Application of space technologies in various areas** such as Agriculture, Railways, Human Resource Development

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and Road, Transport & Highways, etc. for ease of living.
  - Water purification and sewage recycling can be transformed by adapting such technology at scale. For instance, NASA's water purification techniques are being deployed in drier regions of Africa.
  - Similarly, an ethylene removal system called Advanced Astroculture (ADVASC) was developed in space which removes viruses, bacteria and mould and is now being used to prolong the shelf life of fruit and vegetables and in winemaking.
  - Also, Silica Aerogel developed by ISRO for space purposes found its utility in other fields like agriculture, etc.
- **Manned space research is a much larger employment generator than unmanned missions:** ISRO has estimated that the Gaganyaan Mission will create 15,000 jobs because of the new technologies involved.
- **Enhance national pride** as the programme will make India the fourth nation in the world to launch a Human Spaceflight Mission. So far, only the USA, Russia and China have launched human spaceflight missions.

Challenges

- **Biosciences:** While ISRO has perfected the engineering aspects of the mission, bioscience is a new field for ISRO that requires greater technological knowhow and collaboration and support from other organizations. Creating habitable space ecospheres also requires a host of technologies, including the development of exotic materials and first class recycling systems.
- **Cost:** Manned missions require huge investments. So, for a developing country like India with limited resources, there is always a debate on need of such costly missions versus spending on social sector.
- **Moving to a manned programme will involve research and development of a whole new range of technologies and precision:** It involves mastering of the highly complicated and dangerous reentry and recovery ability. The spacecraft needs to withstand very high temperatures, in excess of several thousand degrees. Also, the spacecraft needs to reenter the atmosphere at a very precise speed and angle, and even the slightest deviation could end in disaster.
- **Training of astronauts:** India lacks training facilities for astronauts, though ISRO has demanded for indigenous training centers for its astronauts since early 2000s, no action have been taken yet.

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Disaster Management

Key Stakeholders	Key Issues Involved	Professional Ethics Involved	Human Values Involved
Governments of Country (National, State, Local) **Governments of other countries** and **International institutions** (whole world) **Victims of Disaster** **Civil Society and NGOs** Individual **Citizens** of the country **Media** **Intelligentsia** such as scientific community, writers, etc. **Corporate Sector** who can contribute in capacity building **Industries and sectors** responsible in case of natural disasters **Army/Relief workers**	Preventive ethics Disaster triage (sorting people in groups according to their needs/medical help for allocation of limited resources) Informed consent, Communicable disease surveillance, Risk communication, Refusal of medical treatment, Euthanasia Linguistic, religious, and cultural differences Vulnerable groups Community participation, division of labour Healthcare workers` duty to treat, obligations to disaster relief workers Relations with industry and media Disaster response, rehabilitation and disaster research.	**Accountability and Transparency** (in decision making) **Professionalism** (while allocating resources) **Confidentiality** (especially when public order and national interests are involved) **Avoiding Conflict of Interest (**such as in fund and contract allocation for the relief work) **Impartiality** (while dealing with people who belong to different nation, religion, region, race, caste, or sex etc.) **Maintaining neutrality** (when Political opinion of the Government or the people differs) **Distributive justice**	**Honesty** (being genuine in terms of providing information, allocating resources, relief measures, beneficiaries, etc.) **Courage** (taking risks, being accountable, whistle-blowing, etc.) **Fairness (**treating people in a just and equitable way) **Respect** (towards Rights of people, their dignity and values, etc.) **Empathy** (for the sufferings of people) **Trust** (keeping the promises made)

UN defines disaster as a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Disaster demands humanitarian aid to relieve the suffering of individuals. It also asks for Rehabilitation and Risk Reduction. In this process, disaster management brings out several moral and ethical concerns which need to be resolved.

Disaster Management Ethics include

The Disaster ethics is a very broad field as it may range from individual to collective ethics and has to resolve both macro and micro perspective of the Disaster.

- **Pre-Disaster or Preventive phase:**
  - It is moral responsibility of a **government** to develop capabilities to prevent/reduce the risk of disaster and develop a robust early warning mechanism. The other countries must also identify their roles and should reach out for help e.g. in disasters related to climate change or war etc.
  - **Media** should play a constructive role in identifying and highlighting the issues, so that people should be aware and get ready for the scenario in advance
  - **Industries and corporates** should always opt for environmental impact assessment. Those involved in

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hazardous sectors should ensure safety of their workers as well as the surrounding population and ecosystem.

- **Scientific Communities** must strive to innovate according to the demands of people and environment. **Intelligentsia** have a duty to keep the governments accountable and remind them about pending calamity.

- **Disaster or Early Response phase:**
  - **National Governments:** When prevention and deterrence fail to avert complex emergencies, the only moral response is a **timely, rapid and effective intervention** with assistance effort. If the authorities and relief workers act slowly, they may be late in saving lives and thus violate the principle of doing no harm.
  - **International Community:** In the area of human rights, it is not sufficient to be a neutral intermediary. When governments blatantly violate human rights or need additional help, the **international community has a moral duty to intervene**.
  - **Victims:** The right of an individual to receive equitable disaster relief and recovery aid that is culturally and gender-appropriate should be an inalienable right and not subject to negotiation. If there is a duty to bring relief aid to disaster survivors, then that duty must include non-discrimination on the basis of race, religion, gender, class, and political affiliation.
    - ✓ **Respect of dignity:** No community is utterly helpless, even in times of war and famine. Repeated use of these images has dulled the public to real suffering, while encouraging the public to view people as unable to solve their own problems.
    - ✓ Women are usually at greater risk from physical and sexual abuse during disasters. Assistance policies, however, often do not prioritize women's welfare, largely because of a lack of gender awareness and commitment by agencies and relief officials.
  - **Rescue workers:** Threat to the lives of the relief workers also exist. This creates a dilemma of self-interest vs duty. A high level of devotion towards duty and a high emotional intelligence is required at that time.

- **Post-Disaster or Rehabilitation phase:**
  - According to the UNDP (1997), a disaster response should **prevent future disasters and decrease vulnerability** of the victims to avoid development of a dependency syndrome.
  - The only permanent and, therefore, ethically legitimate disaster relief strategy is one which helps victims to achieve their own long-term development. Therefore, the most ethical way to spend funds collected for Disaster response is through contracting services from the affected and neighboring communities only, so that their economy develops sooner.

Ethical Dilemmas in Disaster Management: Theoretically, there are three types of ethical dilemmas:

- The first involves **choices between options with conflicting merits and costs**. This type of dilemma can be addressed through professional training.
- The second form is centered on moral subjectivity reflecting such dilemmas as **how to act when values of intended beneficiaries clash with those of humanitarian institutions**. Such conflicts can be addressed through mechanisms of participation and empowerment.
- The third dilemma type is where **moral conflicts are perceived within a hierarchy of moral obligations**. Humanitarian agencies may highlight the sanctity of life as the ultimate value

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superseding military and political interests, which often serve as excuses for inaction.

Role of Media in Disaster Management:

- Media plays an important role in dissemination of information for both the general community and disaster victims. In addition, disasters covered by the media receive more attention.
- Information helps survivors make informed decisions that are intrinsically related to their life arrangements and future well-being. Therefore, in disaster situations, Media must try to minimize misinformation, and must regulate news which can create mistrust and refusal of public relief measures. False reports by media such as opening of dam, lake outburst etc. during disaster creates panic among public as well as state administration.
- Media interest in the disasters and people affected by disasters raises ethical issues on privacy and the principle of respect for autonomy. In the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (1995), it is stated that in the information, publicity and advertising activities, the disaster victims should be recognized as dignified humans, and not as hopeless objects.

Conclusion

Disasters vary considerably with respect to their time, place and extent; therefore, ethical questions in these situations may not always have one-size-fits-all answers. On the other hand, embedding ethical values and principles in every aspect is of vital importance in disasters. Measures should be taken both at the local level as well as the country level. In conclusion, it is not only by making great efforts before disasters but also should have a positive attitude is necessary during disasters that ethical challenges can be minimized in disaster responses.

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Sports

Other than bringing entertainment to the audience, sports teaches tolerance, rule of law, trust, self-control etc. to the sportsperson themselves, as well as those who are watching it. Players become role models for younger generations and hugely impact the society. Therefore, it becomes important that their conduct remains ethical.

Ethics in sports requires four key virtues: fairness, integrity, responsibility, and respect.

Fairness

- Established rules should be followed by all.
- Uneven playing field violates the integrity of the game.
- There must not be any discrimination based on race, gender or sexual orientation.
- Referees must not show personal interest in the outcome.

Respect

- Athletes and Coaches should show respect for teammates, opponents, and officials.

Integrity

Athletes must not gain an advantage over his or her opponent by means of a skill that the game itself was not designed to test e.g. faking an injury in football. It undermines personal integrity, may hurt the credibility of referees and ultimately the integrity of the game.

Responsibility

- Players and coaches should be responsible for their performances, actions on fields, and their emotions. They should also conduct themselves in an honourable way off the field as well.
- Responsibility requires that they should be aware of rules and regulations governing the sports.

Ethical Issues in Sports

1. Fair Play

Equity and Impartiality are two important features of 'Fair play'. In sports, Fair Play means using only tactics that are in accordance with the spirit of the sport.

Some players use dubious but legal tactics such as distracting an opponent, or misrepresenting their own skill level in order to make opponents over or underestimate them to gain an extra advantage in their sport e.g. in wrestling or boxing. This practice is known as gamesmanship. They are considered by most as Ethical.

However, most sportsmen use some form of cheating in their games which on ethical terms violate the principle of Fair Play e.g. in Football to win a penalty, Diving (pretending to have been fouled) or Faking (exaggerating a mild injury) is done. Players caught faking can be suspended (Rivaldo in 2002 World cup). Similarly, Ball tampering (du Plessis in 2016) or Sledging in Cricket etc. are unethical practices.

2. Level Playing Field

A 'level playing field' is a situation in which competitors are required to follow the same rules and are given an equal opportunity to compete. This means that **no matter what the rules are**, as long as they are applied equally and impartially, the playing field is still level. Issue of level playing field can be better understood by issue of using performance enhancing drugs. This brings out several ethical dimensions such as:

- **Winning:** It's the taking part that counts, not the winning. Allowing drugs would focus more on winning, not taking part. Even for those who believe that winning is everything, it should not compromise ethical principles.
- **Discrimination:** Poorer teams are already disadvantaged by other factors such as equipment, expertise and so on.
- **Health Risks:** Many performance-

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enhancing drugs pose severe health risks. Even if athletes are willing and know the health risks, taking drugs amounts to harming oneself, or risking harm unnecessarily, and that is unethical.

- **Spirit of Sports:** If the 'spirit of sport' includes the idea of hard work, taking drugs may be seen as a way of succeeding with less effort.
- **Wrong precedence:** Amateur sports players would be encouraged to take drugs if professional athletes openly did it. As amateurs don't have medical support and advice, it could bring harm to them.
- **Impact on others:** If drugs are allowed, drug advertising and sponsorship will presumably be allowed. This will influence the youngsters to use drugs. Therefore, performance enhancing drugs should be banned because not only do they violate spirit of competition, they can potentially damage the health of those taking them, whether they are elite athletes who stand the risk of being detected using them, or the recreational sportsperson who is unlikely ever to be tested. They should be banned also because anyone using them is trying to gain an unfair advantage over those athletes who wish to maintain normal health.

3. **Other prominent ethical issues include -** Match fixing and betting, exploitation by competitive parents and coaches, coaches having inappropriate relationships with players, salary being paid to sportspersons (whether being part of same team entitles them to equal pay), incentives given to sportspersons (govt. jobs being offered) etc.

Role of Sports Regulatory Bodies:

- To publish clear guidelines on what is considered to be ethical or unethical behaviour.
- To strictly implement the rules.
- Ensure participation and involvement of all, along with providing level playing field.
- To provide help and support to the media to promote good behaviour.

Role of Government

- Support those organizations and individuals who have demonstrated sound ethical principles in their work with sport.
- Encourage the education system to include the promotion of sport and fair play as a central part of the physical education curriculum.

Conclusion

Healthy competition is a means of cultivating personal honor, virtue and character. The goal in sportsmanship is not simply to win, but to pursue victory with honor by giving one's best effort. The founder of Olympic games, Pierre de Coubertin rightly says that, **'The most important thing in the Olympic Games is not winning but taking part; the essential thing in life is not conquering but fighting well.'**

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NILGIRI TAHR

Context: In a heartening development for conservationists, a recent census has revealed that the population of the Nilgiri tahr (an endangered mountain goat) at the Mukurthi National Park has grown by an impressive 18% in the last two years, from 480 to 568.

- ***Threats:*** The population also faces several threats. Researchers point to the continuing spread of invasive species of flora, such as wattle and pine, and exotic weeds like scotch broom (Cystisus scoparius) and gorse, which end up diminishing grazing land.

Nilgiri Tahr- Key facts:

- IUCN status- Endangered.
- It is listed in Schedule I of the Indian Wildlife (Protection) Act 1972.
- Endemic to the Nilgiri Hills and the southern portion of the Western Ghats in the states of Tamil Nadu and Kerala in Southern India.
- It is the State animal of Tamil Nadu.

'CALL FOR CODE' INITIATIVE

- ***What is it?*** It is an initiative launched by Global IT giant IBM in partnership with Indian IT companies.
- ***Aim:*** The aim is to build global solutions for disaster management. It also aims to bring startup, academic and enterprise developers together to respond to and recover from natural disasters.

PM-STIAC

- ***What***? Union Government has constituted a new 21-member advisory panel on science, technology and innovation called Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC). It will replace earlier Scientific Advisory Committee to Prime Minister and to Cabinet.
- **Composition**: It will be headed by Principal Scientific Advisor to the government of India. It has nine members, including Chairperson. Apart from nine members, it will also have twelve special invitees — eleven ex officio secretaries 10 central ministries, related to science, technology, energy and education, are special invitees to the panel.

Roles and functions:

- Advise PM on science, technology, as well as innovation.
- Coordinate implementation of PMs scientific vision.
- Aid in formulation and timely implementation of major science and technology missions and evolve interdisciplinary technology development programmes.
- Advise government on developing 'Clusters of Excellence' in science including city-based R&D clusters.
- Bring together all science and technology partners from academia and institutes to industries near such centres or cities.

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VOSTOK-2018 (EAST-2018)

What is it? It is a military exercise that will be held in the month of September by Russia.

Significance: It will be Russia's biggest war games since at least the 1980s. Vostok demonstrates Russia's focus on exercising large-scale conflict. It fits into a pattern we have seen over some time: a more assertive Russia, significantly increasing its defence budget and its military presence.

LAKHWAR MULTIPURPOSE PROJECT

- ***Context:*** The Centre has signed MOU with Uttarakhand, UP, HP, Rajasthan, Haryana and Delhi for Construction of Lakhwar Multipurpose Project on Yamuna Near Dehradun.

Key facts:

- Project Will Generate 300 MW of Power Create 33,780 Hectare Irrigation Potential and 78.83 MCM Water Availability.
- Uttarakhand Will Bear the Cost of Power Component, Get the Total Benefit of Power Generation.
- Centre will Fund 90% of Irrigation Component, the Six States to the Fund Remaining 10% and Share Water Proportionately.

Lakhwar Multi- Purpose Project:

- Lakhwar Project is a multipurpose scheme, primarily a peaking power station, on river Yamuna in the district of Dehradun in Uttarakhand.
- The scheme envisages construction of 204 m high concrete dam on river Yamuna near Lohari village. The Multipurpose scheme also envisages construction of Vyasi HEP (2×60 MW) (Hathiari power station) downstream of Lakhwar HEP.
- The scheme also includes construction of a barrage at Katapathar about 3 Km downstream of Hathiari power station (Vyasi HEP) on river Yamuna.

Beneficiary States:

- Uttarakhand, Uttar Pradesh, Himachal Pradesh, Haryana, Rajasthan and Delhi are the six Upper Yamuna Basin states.
- Upper Yamuna refers to the stretch of River Yamuna from its origin to the Okhla Barrage in Delhi.

INDIA'S FIRST BIOFUEL-POWERED PLANE

- **What?** India has now joined the small league of nations with the US and Australia to have flown a biofuel-powered aircraft.
- **Who?** SpiceJet flew the Bombardier Q400 (VT- SUI) on biofuel from Dehradun to Delhi.
- **Significance**: Biofuel flights could make air travel cleaner and more efficient, thus drastically reducing the cost of airline operations by reducing the dependency on aviation turbine fuel. The biofuel is made partially from renewable resources such as agricultural residues, non-edible oils and bio- degradable fractions of industrial and municipal wastes.

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INTERNATIONAL BUDDHIST CONCLAVE 2018

- ***Context:*** With an aim to encourage the prominent Buddhist heritage and pilgrim sites in the state of Maharashtra, Maharashtra Tourism Development Corporation in association with Ministry of Tourism recently organized the 6th International Buddhist Conclave 2018 in Aurangabad. The Conclave will highlight the traditional and historical facets of Buddhism across the world.
- ***Theme:*** 'Buddha Path – The Living Heritage".***Significance:*** The International Buddhist Conclave is testament of the **Ministry of Tourism** and **Maharashtra Tourism Development Corporation** towards its commitment to advance the experience of travellers as well as tourists looking to experience the spirit of Buddhist inheritance of our country.

KOWSAR

- ***What is it?*** It is a new domestically-produced **fighter jet** unveiled recently by **Iran**.
- ***Significance:*** Designed and manufactured solely by Iranian military experts, the Kowsar is described as a fourth-generation fighter jet, which classifies it among military fighters in service from approximately 1980 to the present day.

Implications: Iran is currently under economic and diplomatic pressure from a raft of sanctions reimposed by the United States earlier this month, and the unveiling could be seen as a bid to show self-sufficiency and military might in the face of that pressure.

WHAT IS LEMONS PROBLEM IN ECONOMICS?

- The idea was first proposed by American economist **George Akerlof** in his popular 1970 paper, "The market for lemons: Quality uncertainty and the market mechanism".
- It refers to a form of adverse selection wherein there is a degradation in the quality of products sold in the marketplace due to asymmetry in the amount of information available to buyers and sellers.
- Since sellers typically know more about any defects in the products that they sell to buyers, there is an opportunity for the sellers in the marketplace to sell low-quality products to unaware buyers.

PANINI LANGUAGE LAB IN MAURITIUS

- **Context**: 'Panini Language Laboratory' has been set up at Mahatma Gandhi Institute (MGI) in Mauritius.
- **Significance**: The lab, gifted by the Indian government, will help MGI in teaching Indian languages in Mauritius. It aims to promote reading and writing Hindi amongst young generation and its further development. It will serve as medium to generate more interest in learning Hindi amongst youngsters thereby strengthening language.

DECODING COMPLEX WHEAT GENOME

- **Context**: In a major scientific

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breakthrough, a team of international researchers, including 18 from India decoded the wheat genome, considered insurmountable so far.

- **Significance**: The information generated will help to identify genes controlling complex agronomic traits such as yield, grain quality, resistance to diseases and pests, as well as tolerance to drought, heat, water logging and salinity.

HELINA

- **What is it?** It is indigenously developed Helicopter launched Anti-Tank Guided Missile. The Missile is guided by an Infrared Imaging Seeker (IIR) operating in the Lock on Before Launch mode. It is one of the most advanced Anti-Tank Weapons in the world.
- ***Why in News?*** It was successfully flight tested from Army Helicopter recently.

EXERCISE PITCH BLACK

- **Context**: Exercise Pitch Black 2018 was held at RAAF Base Darwin, Australia. The Indian Air Force for the first time participated with fighter aircraft in Exercise.
- **What is it?** It is a biennial multi-national large force employment warfare exercise hosted by the Royal Australian Air Force (RAAF). The aim of the exercise is to practice Offensive Counter Air (OCA) and Defensive Counter Air (DCA) combat, in a simulated war environment.

MAITREE 2018

- **Context**: Exercise Maitree 2018 was held in Thailand.
- **What is it?** The Exercise Maitree is an annual event designed to strengthen the partnership between Royal Thai Army and Indian Army.

COLOURED STICKERS TO INDICATE NATURE OF FUEL

The Supreme Court has accepted the Centre's proposal to use hologram-based coloured stickers on vehicles, plying in the Delhi-National Capital Region (NCR), to indicate the nature of the fuel used.

Colour Codes:

- The Hologram-based sticker of light-blue colour will be used for petrol and CNG-run vehicles.
- Sticker of orange colour will be used for diesel- driven vehicles.

ASIAN GAMES

- The 18th edition of Asian Games is being held in Jakarta, Indonesia.

Key facts:

- For the first time, eSports, a form of competition using video games, and canoe polo will be contested as demonstration sports.
- This will be the second time that Indonesia hosts the Asian Games.
- This will be the first time that the Asian Games will be held in two cities – Jakarta and Palembang.

About Asian Games:

- The Asian Games, also known as Asiad, is a continental multi-sport event held every four years between athletes from all over Asia.
- Since 1982, the Games have been organised by the Olympic Council of Asia (OCA). Prior to that, the Games were regulated by the Asian Games Federation (AGF).
- The Games are the second largest

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multi-sport event after the Olympic Games.
- The last edition of the Games was hosted by Incheon, South Korea in October 2014.

MAHARSHI BADRAYAN VYAS SAMMAN AWARD

- The Maharshi Badrayan Vyas Samman distinction is conferred on persons once a year on the Independence Day in recognition of their substantial contribution in the field of Sanskrit, Persian, Arabic, Pali, Prakrit, Classical Oriya, Classical Kannada, Classical Telugu and Classical Malayalam.
- The award introduced in the year 2002, is given to selected young scholars in the age group of 30 to 45 years. It carries a certificate of honour and a one time cash prize of Rs.1 lakh.

REPORT ON CLEANLINESS OF THE COUNTRY'S RAILWAY STATIONS

- ***Context***: Third Party Survey Report on Station Cleanliness has been released. It ranks 407 railway stations including 75 A1 category stations, 332 A category stations on basis of cleanliness performance.
- The survey was conducted by the Quality Council of India (QCI) to increase level of cleanliness under Swachh Bharat Abhiyan by identifying unclean spots, improve cleanliness standards and propel healthy competition among railway stations.

MUKHYA MANTRI-YUVA NESTHAM

What to study?

- **For Prelims**: Highlights of the scheme.
- **For Mains**: Significance and the need for such schemes.
- ***Context:*** Andhra Pradesh government has launched 'Mukhya Mantri-Yuva Nestham'.

Highlights of the scheme:

- Under the scheme, ***an allowance of Rs 1000 per month*** will be provided to unemployed youth in the state.
- About 12 lakh youths in the ***age group of 22- 35 years*** will get the benefit of the scheme. The registration for the scheme will start mid- August.
- The scheme will be extended to all those eligible even if there are more than one beneficiary in a family.
- The money will be credited directly into the bank accounts through biometric authentication.
- The government will not only provide financial help to the unemployed youth but also ***provide training and help them develop their skills***.
- The data of unemployed youth in the state will be made available for industries and companies searching for young talent.

MOVE HACK, A GLOBAL MOBILITY HACKATHON

- ***Context***: NITI Aayog has launched Move Hack, a global mobility hackathon to crowdsource solutions aimed at the future of mobility in India.
- The hackathon has a two-pronged campaign approach:
- **"Just Code It":** aimed at solutions through innovations in technology/product/software and data analysis.
- **"Just Solve It":** innovative business ideas or sustainable solutions to transform mobility infrastructure through technology.

FIELDS MEDAL

- ***Context:*** Akshay Venkatesh, a renowned Indian-Australian mathematician, is one of four winners

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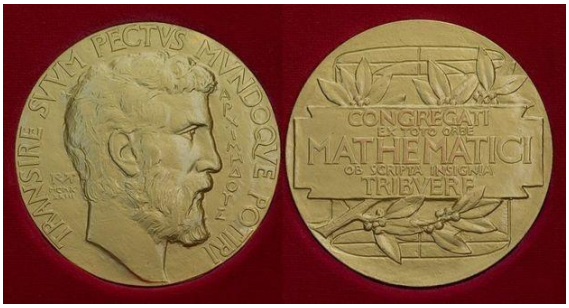
of mathematics' ***prestigious Fields medal, known as the Nobel prize for math***. He has won the Fields Medal for his profound contributions to an exceptionally broad range of subjects in mathematics.



About Fields Medal:

- The Fields medals are awarded every four years to the most promising mathematicians under the age of 40.
- Each winner receives a 15,000 Canadian-dollar cash prize. At least two, and preferably four people, are always honoured in the award ceremony.
- The prize was inaugurated in 1932 at the request of Canadian mathematician John Charles Fields, who ran the 1924 Mathematics Congress in Toronto.

MOSQUITO TERMINATOR

What is it? It is a special train which will help in preventing mosquito breeding along the railway tracks in Delhi. It has been launched jointly by the Delhi Division of Northern Railway and South Delhi Municipal Corporation (SDMC).

The train has been envisaged to control and mitigate the menace of mosquito breeding in the burrow pits alongside railway tracks, as a measure to contribute towards public health and, more importantly, for the health safety of people residing at places adjoining the tracks.

MAITREE 2018

- ***What is it?*** It is an annual joint military training exercise between India and Thailand. The 2018 edition of this exercise is being held in Thailand.
- ***Aim:*** The aim of this exercise is to build and promote closer relations while exchanging skills and experiences between the two armies.
- Last exercise was held in Himachal Pradesh's Bakloh in 2017.

XINGKONG-2

- ***What is it?*** It is China's hypersonic "waverider" flight vehicle. It is also called Starry Sky-2.

Key features of the aircraft:

- It is capable of flying independently and of carrying nuclear warheads. It glides at high speeds using shockwaves generated by its own hypersonic flight with the air.

INTERNATIONAL DAY OF THE WORLD'S INDIGENOUS PEOPLES 2018

- ***Context:*** The International Day of the World's Indigenous Peoples is being observed across the world on August 9, 2018.
- ***Aim:*** To strengthen international cooperation for solving problems faced by indigenous peoples in areas such as human rights, the environment, education, health and social development.
- ***Theme:*** 'Indigenous peoples' migration and

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movement'.

Significance of the day: The United Nations General Assembly on December 23, 1994 proclaimed 9 August as the International Day of the World's Indigenous Peoples. The date marks the day of the first meeting of the UN Working Group on Indigenous Populations of the Sub-Commission on the Promotion and Protection of Human Rights in 1982.

TRAIN CAPTAIN SERVICE

Context: In order to introduce the concept of a single person/leader responsible for coordinating the entire team and facilitating all services during the complete journey of the train, instructions have been issued introducing the concept of Train Captain.

How it works? In trains like Rajdhani/ Shatabdi/ Duronto and other trains where a Train Superintendent (TS) is on end to end basis, TS shall be nominated as "Train Captain" and made responsible for all the facilities on train. In all other trains, where TS is not present, Zonal Railways are to nominate the senior most ticket checking staff as Train Captain.

IN NEWS- PENCIL' PORTAL

- The government has launched a web portal called 'PENCIL' for effective implementation of the National Child Labour Project, (NCLP).
- **PENCIL (Platform for Effective Enforcement for No Child Labour)** — an electronic platform for no child labour in the country has been developed by the Labour Ministry.
- PENCIL portal has five components — Child Tracking System, Complaint Corner, State Government, National Child Labour Project and Convergence.

OPERATION 'MADAD'

What is it? Operation "Madad" has been launched by the Southern Naval Command (SNC) at Kochi since 09 Aug 2018 for assisting the state administration and undertaking disaster relief operations due to the unprecedented flooding experienced in many parts of Kerala, owing to incessant rainfall and release of excess water from Idukki and other dams.

INDIAN ARMY MOUNTAINEERING EXPEDITION TO MT KAMET AND MT MAKALU

- ***Context:*** In pursuit of achieving greater heights in the field of mountaineering, Indian Army is planning to attempt Mt Makalu (8485M), the fifth highest mountain peak in the world in 2019. As a precursor to it, an expedition to Mount Kamet (7756M), Joshimath District Chamoli, Uttarakhand is being conducted under the aegis of Army Adventure Wing in August-September 2018.
- ***About Mt Makalu:*** Among the eight mountains in Nepal above 8000m, Mt. Makalu is the fourth tallest in Nepal and fifth highest Peak on the Earth with its height 8,463m. Mt. Makalu resides in the eastern Himalayas range just 19Km southeast of the giant Mt. Everest in the border of Nepal and China. At the base of Mt. Makalu, there lies a natural wonder: The Barun Valley.
- ***MOUNT KAMET:*** Mount Kamet is the second most elevated top in the Garhwal district after Nanda Devi. Kamet Peak is the third most astounding mountain crest in India and the twenty-ninth most noteworthy crest on the planet. Kamet is considered as the piece of the Zaskar Range, which lies to the north of the Himalayas between the Suru River and the upper Karnali River. Three huge crests bound Kamet, the Mukut Parbat in the northwest of Kamet, Abi Gamin and Mana, which is in the south-southeast of Kamet.

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