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PT-MAINS

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Khap Panchayats

Why in news?

The Supreme Court recently said any attack against an adult man and woman opting for an inter-caste marriage by khap panchayats or associations is "absolutely illegal".

About Khap panchayats

- They are the traditional social institutions engaged in dispute resolution in village communities. They are formally distinct from the lawfully elected village panchayats and their rulings have no legal sanctity in the eyes of court.

- They are most prevalent in Haryana and Western UP, however they exists in whole of North India in different forms. It is generally an all-male organization and its leaders are unelected but based on their social clout.

Controversial aspects of Khap

- Khap Panchayats functions as **extra-constitutional authorities**, often delivering pronouncements amounting to violation of human rights fundamental rights like right to life and liberty, right to privacy , freedom of expression, right of association, movement and bodily integrity among others.
- They have been **linked to honour killings**, forced marriages, female foeticide, excommunication of individuals and families and whimsical ways of delivering justice. They promote a Culture of Silence by **inculcating fear** among people.
- The inherent **weakness of Panchayati Raj** System gives them more strength. They have strong political hold in the region of their operation, hence no political parties could dare to go against their decisions. Even the state machinery like police don't act against them
- They are extremely **patriarchal organisation** and most of the times young women are at the receiving end of their

pronouncements. They recommend special kind of dress code for them, put restrictions in their going out, employment choices, and also restricts their right to choose partner of choice.

- Their continued prevalence **hinders social mobility**, growth and development, familial bond and trust and shows general lack of empathy, compassion, brotherhood in the society.

Other related aspects

- They are not illegal organisations per se, they are age-old, social institutions based on the kinship feeling or cultural relativism that gives them strength.
- They sort out a plethora of social and legal issues in villages starting from minor disagreements to grazing land, playground,

water and fodder distribution in villages, land disputes, marital disputes, division of ancestral property, and common-resource management in villages.

- They deliver justice quickly than regular courts. The rural-folk lacks money and expertise to handle these situations in a court of law. People readily stand as witness in a Panchayat full of their peers, and speak truth, while they would feel uncomfortable in a court.

- In many cases, especially land dispute, there are no documentary evidence, all the evidence exists is the elders and their witness to the past.
- These panchayats have also frequently made **pronouncements on social issues** in an attempt to combat problems like female abortions, alcohol abuse, dowry, and to promote education.

Government's steps to curb the excesses done by khap panchayats

Two Law Commission's draft bill on khap panchayats specially on prohibiting honour

killings

- **The Prohibition of Unlawful Assembly (Interference with the Freedom of Matrimonial Alliances) Bill, 2011**
- **Endangerment of life and Liberty (Protection, Prosecution and other measures) Bill, 2011**

The two bills are **just proposals** and so far no concrete legislative reform has been done to curb the clout of Khaps.

Few **suggested legislative measures** include-

- Constitution of fast track courts to deal with honour killings;
- Amendments to Special Marriage Act to reduce duration of registration of marriage;
- Provide enough protection to couple engaged in inter- caste marriage.

The **Maharashtra Prohibition of People from Social Boycott (Prevention, Prohibition and Redressal) Act, 2016**, disallows social boycott in the name of caste, community, religion, rituals or customs.

Judicial Pronouncements directed towards bringing down the clouts of Khap Panchayats.

- In Laxmi Kahhwaha vs. The State of Rajasthan the Rajasthan High Court held that the Caste Panchayats have no jurisdiction whatsoever and cannot impose fine or social boycott on anyone.
- In Armugam Servai vs. State of Tamil Nadu, Supreme Court said that Khaps are illegal and must be rooted / stamped out.

Medaram Jatara

Context:

- The four-day 'Sammakka – Saralamma Jatara' at Medaram in Telangana has begun. Considered the biggest tribal festival across South Asia, the Jatara witnesses a huge number of devotees thronging the village to take the blessings of Goddess Sammaka-Saralamma.

About the Medaram's Sammakka-Sarakka/Saralamma Jatara:

- *What is it?* Sammakka-Sarakka Jatara held by forest dwelling Koya tribe of Telangana and surrounding States, is the biggest Tribal festival in Asia which is attended by one crore people on an average.

- *Why is it held?* The event is held bi-annually to honour the twin goddesses Sammakka and her daughter Sarakka. Several communities in Telangana society support Jatara as it is also a mythical narrative of two tribal women leaders who fought against the Kakatiya rulers who tried to annex their land and forests. According to the myth it was Sammakka's curse which caused gradual decline and death of Kakatiya rule.

Facts for Prelims:

- *Where is Medaram located?* Medaram is a remote place in the Eturnagaram Wildlife Sanctuary, a part of Dandakaranya, the largest surviving forest belt in the Deccan.

NHPS

Why in News?

In budget 2018, a flagship **National Health Protection Scheme** (NHPS) was announced under **Ayushman Bharat programme** for a New India 2022.

Health Infrastructure in country

- **Low public expenditure**- Total public expenditure on health in India is 1.4% of the GDP against 2.5% of the GDP as envisioned in **National Health Policy**.
- **Poor Public Health Infrastructure**- According to **National Sample Survey Organization (NSSO-2015),** more than 70% of ailments —72% in rural areas and 79% in urban areas—were treated at private healthcare facilities due to a decaying public healthcare system.
- **Out Of Pocket (OOP) Expenditure**- According to World Bank data, 62.4% of total health expenditure in the country was OOP in 2014 (global average 18%), pushing 7% of India's population into poverty each year.
- According to World Bank, India has one of **the lowest per capita healthcare expenditures** at $267 in 2014, far below the world average of $1,271.

Highlights

- **Aim-** To provide medical cover up to Rs5 lakh per year per household for secondary and tertiary health care.
- **Coverage-** An estimated 10 crore households across the country, constituting 40% of total population on the basis of "deprivation and occupational criteria" as per Socio-Economic and Caste Census (SECC) data, 2011.
- **Using JAM**- It would be a cashless and Aadhaar enabled for better targeting of beneficiary.
- **Finance-** It is **a Centrally Sponsored Scheme** with ratio of contribution towards premium will be
  - **60: 40 ratio** Share between Centre and State in all states and UTs with legislature.
  - **90: 10 ratio** between Centre and northeastern states & 3 Himalayan states.
  - **100% Centre's contribution** in case of union territories (UTs) without legislature.
  - **Central funding**: Initial corpus of Rs 2000 crore was announced and rest will be funded from 1% additional cess (Budget-2018).
- NHPS scheme will subsume **Rashtriya Swasthiya Bima Yojana (RSBY)** under it.
- **National Health Agency (NHA)**- It will be set up to manage NHPS.
- It will operate around the insurance principle of **risk pooling.** When a large number of people subscribe to an insurance scheme, only a small fraction of them will be hospitalised in any given year.

Challenges

- **Identification of Beneficiary** will be extremely challenging as criteria, other than family income, will cause a huge discontent.
- **Ignoring Primary Healthcare**- Rural Health Statistics 2016 shows the number of primary and community health centers have stagnated over the last three decades and scheme might further promote unnecessary **tertiarization of healthcare**, leading to a cost spiral.
- **Past experience (Evaluation of RSBY)** shows that India lacks the institutional expertise and capacity to implement public health insurance effectively.
- **International Experience** has also shown that insurance-based health care provision, is an expensive model of financing health care for the government.

- **Poor health infrastructure like** hospital beds, doctors (mainly specialists), healthcare staff, diagnostic facilities, pharmacies, etc are not enough to meet the needs of the population.
- **Against Federalism**- It curtails states' autonomy to design their own policies that is constitutionally mandated to be in their domain.
- **Unethical medical practices** under previous scheme for quick monetary gains through unnecessary hospitalization, extension of hospital stay, etc.
- **Instances of Frauds**- Hospital and Insurance company were found in unholy nexus by charging extra for registration, diagnostics & treatment and claiming false insurance claims by floating ghost beneficiaries under government insurance schemes.
- **Structural Issues remain** as India fares poorly on both disease surveillance and funds utilization on health.

Ayushman Bharat programme has two component viz. National Health Protection Scheme & Health and Wellness Centre.
Health and Wellness Centre: They were envisioned under National Health Policy, 2017.

- **Under this 1.5 lakh centres will bring health care system closer to the homes of people.**
- **These centres will provide comprehensive health care, including for non-communicable diseases and maternal and child health services.**
- **Contribution of private sector through CSR and philanthropic institutions in adopting these centres is also envisaged.**
- **Augmented by induction of non-physician healthcare providers such as nurse practitioners, in addition to the existing staff, the HWC will provide essential drugs and basic diagnostic free of cost.**
- **Various vertical disease control programmes will find convergence at this delivery point.**
- **Using technology, HWCs can generate**

real time data for monitoring various health indicators.
- **Challenges - shortage of human resource along with concerns related to lower budget allocation.**

Role of the States – It is paramount in smooth implementation, because-

- **Public health falls in state list therefore states share responsibility of effective delivery of healthcare services on the ground, including ensuring availability of the health personnel.**
- **NHPS is seen as consolidating fragmented healthcare market with the background of various states having their own health care schemes, e.g.- Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, and Goa.**

Rashtriya Swasthya Bima Yojna (RSBY)

- **Launched in 2007-0, it is a health insurance scheme for BPL families and workers in the unorganized sector.**
- **It provides for IT-enabled and smart–card-based cashless health insurance, including maternity benefit cover up to Rs. 30,000/- per annum on a family floater basis.**
- **Funding Pattern: Contribution by Government of India to Sate Government is in ratio of 75:25.**
- **It is implemented by the Ministry of Health and Family Welfare.**

Significance

- **It would be the world's largest government- funded health programme.**
- **It is expected to help in building New India 2022 by enhancing productivity, avert wage losses and impoverishment.**
- **Consolidating Fragmented Healthcare Insurance**

facility available in different states.
- **It might help in achieving National Health Policy target of health expenditure to reach 2.5 per cent of the GDP by 2025 and**

will lead to Universal Healthcare Coverage.

- **It might promote equal distribution of patients in private and government hospitals as scheme will be delivered by a network of public and private hospitals.**

Way Forward

- **Expanding scope to achieve Ayushman Bharat** by sharing expenditure on outpatient services for long- duration chronic disease.
- **Diverse disease profile-** Each state must be given the flexibility to curate its own list of medical procedures.
- **Integrating primary healthcare into NHPS** to make the scheme viable and sustainable.
- **Preventive healthcare** be made an integral part of NHPS to reduce the burden of hospitalization caused by disease progression and improving nutritional status, awareness, and maintaining efficient health surveillance systems.
- **Leveraging Technology-** Blockchain technology can be used to develop a seamless patient electronic medical record (EMRs) for insurance-based NHPS to prevent fraud and ensure accountability and traceability.
- **Checks and Balances mechanism** at the ends of both the patient and the providers to measure outcomes and tackle abuse of the scheme.

Pelican festival

Context:

- ☐ 'Pelican Bird Festival-2018' was recently organized at Kolleru lake. It was jointly organised by the Andhra Pradesh Tourism Authority (APTA) and Krishna district administration.

Background:

- ☐ Thousands of pelicans, painted storks and other birds will visit the lake during winter season, roost, breed and fly with their off springs.
- ☐ Recently, officials identified that Atapaka is one of the largest pelicanry in the world.

About Kolleru lake:

- ☐ Kolleru lake is one of the largest fresh water lakes in the country. It is located between Krishna and Godavari delta. It was declared as a wildlife sanctury in 1999. It is a Ramsar site and is also listed as an Important Bird Area.
- ☐ The lake is known to amateur birdwatchers and professional ornithologists as a Pelicanery — a location were the Grey Pelicans, a large magnificent bird, nest and breed. Grey pelicans had vanished from the lake in 1973 for nearly 35 years and returned to it to nest again in December 2006.

Facts for Prelims:

- ☐ The Grey Pelican also called the Spot Billed Pelican is listed in Schedule I of the Wildlife Protection Act and in the Red Data Book. It is also considered a "globally threatened species" under the "vulnerable" category.

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Urban nutrition in India

Why in News?

The Urban HUNGaMA (Hunger and Malnutrition) **Report on Urban Nutrition** was released based on the survey that was conducted in 2014 by Citizens Alliance against Malnutrition.

Details

The URBAN HUNGaMA Survey 2014 was conducted to capture essential nutrition data of children aged 0-59 months in the 10 largest cities of India.

- ☐ The data collected in the survey was related to Nutrition (weight, height, age) & Household (parent's years of schooling, religion, access to services).

Issues with Urban Nutrition

Urban nutritional problems result in a spectrum of outcomes, from obesity to malnourishment.

- ☐ For many of the poor, a lack of food is not the core issue; the deficiencies stem from the lack of nutrients found in many cheap foods they consume to keep themselves and their family out of hunger.
  - o These "costs" of poor nutrition contribute to even higher health care costs, creating a dangerous downward spiral.
- ☐ Further, excessive intake of energy, coupled with limited physical activity involved in urban lifestyle,

lead to rising problems of obesity and diet-related chronic diseases in most cities.

- o Urban diets tend to include foods containing more energy and fat density, which can contribute to chronic health problems.

Due to increasing urbanization in India the challenges related to nutrition loom large which is studied by the survey.

Highlights of the Report

- ☐ It showed a small difference between boys and girls for **all indicators of malnutrition**. It shows a very small difference between boys and girls: boys were found to be slightly more malnourished than girls in every measure of malnutrition.
- ☐ The findings show a significantly higher prevalence of malnutrition among children whose mothers had **little or no schooling**.
- ☐ The prevalence of child malnutrition among households in **the higher wealth quintiles** was significantly lower than among households in lower wealth quintiles. While in terms of over-nutrition, children from the higher wealth households were more.
- ☐ Only 37.4% households accessed a public distribution system in the month preceding – lowest being in Surat (10.9%) and highest being in Kolkata (86.6%).

Less than one in four children was fed a diet that meets the minimum requirements for healthy growth and development.

MALNUTRITION IN INDIA'S MOST POPULOUS CITIES

INDICATOR	Prevalence in children under five (in %)
STUNTING	22.30%
WASTING	13.90%
UNDERWEIGHT	21.40%
OVERWEIGHT	2.40%

Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 month

Severely stunted	Severely underweight	Severely Wasted	Severely overweight (obese)
7.6	5.2	3.2	0.9

International Kala Mela

Context:
- The First ever International Kala Mela is being in New Delhi. The International Kala Mela has been organised by the Lalit Kala Akademi in partnership with IGNCA of the Ministry of Culture.

About the festival:
- The central objective of Kala Mela is to focus on direct interaction between the artist and the connoisseur and also educating and raising awareness about art, which has been the mandate of Lalit Kala Akademi.
- This comprehensive outreach shall include the participation of National, International level Artists/ Art Critics of repute from all over the Globe.
- More than 800 artists from across the world are taking part in the Festival. The festival serves as a platform for artists to showcase their art works.

Lalit Kala Akademi:
- The Lalit Kala Akademi or National Academy of Art is India's National Academy of Fine Arts.
- It is an autonomous organization, established at New Delhi in 1954 to promote and propagate understanding of Indian art, both within and outside the country.

It does so through providing scholarships, a fellow program, and sponsoring and organizing numerous exhibitions in India and overseas.

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Demetrios Galanos

Context:

- Indira Gandhi National Centre for the Arts (IGNCA) is organizing an International Conference on, 'Demetrios Galanos and His Legacy'. The convention is being held in Delhi and Varanasi, in addition to organizing the exhibition and folk music of Greece. The conference is being organized by Indira Gandhi National Center for the Arts (IGNCA) under the Bharat Vidya Prayojana, a long term academic program of the IGNCA.
- The aim of the conference is to focus on academic and cultural exchanges between India and Greece made

by scholars and artists both Indian and Greek, in modern times since Demetrios Galanos.

About Demetrios Galanos:

- Demetrios Galanos (1760–1833) has a special place among the European Indologists of the nineteenth century. He was the only one who stayed in India for 47 years, and except for the first seven years when he lived in Calcutta, for 40 years he lived in the city of Varanasi, mastering Sanskrit, Hindi and Persian, from local scholars.
- Contributions: He translated the Bhagvad Gita into Greek among many other Sanskrit texts. His major contribution was the compilation of a Sanskrit-English-Greek lexicon of about 9000 words.

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Need To Focus On Newborns

Why in News?

UNICEF recently released a report on new born deaths titled "Every Child Alive".

Important Facts & Figures

- More than 80 per cent of all the new born deaths are the result of causes that could have been prevented with basic solutions.
- The "**Every Newborn Action Plan**" estimated that the lives of 3 million mothers, newborns and stillborn babies could be saved each year by improving care.
- While NM rates have fallen in recent decades (49%), they still lag behind the impressive gains made for children 1 month to 5 years old (62%).
- Every year, an estimated 2.6 million babies are stillborn, the vast majority in low- and middle-income countries.

Neonatal Mortality (NM) - It is defined as death within the first four weeks of life.
Child Mortality (CM) - It is defined as death of children under the age of five

Every Newborn Action Plan
- *It is led by WHO and UNICEF.*
- *In 2014, 194 member states of the Sixty-seventh World Health Assembly, including India, endorsed the action plan.*

It provides a road map of strategic actions for ending preventable newborn mortality and stillbirth and contributing to reducing maternal mortality and morbidity.

Highlights of the Report

- Two main factors help explain reasons behind high numbers of NM.
  - Preventable causes like prematurity, complications around the time of birth, and infections such as sepsis, meningitis and pneumonia require a system-wide approach because they cannot be treated by a single drug intervention.
  - Lack of global focus on the challenge of ending NM.

- Newborn survival is closely linked to a country's income level. For example, NM in Japan is 1 in 1,000 while in Pakistan it is 46 in 1000.
- However, a country's income level explains only part of the story. The existence of political will to invest in strong health systems that prioritize newborns and reach the

poorest and most marginalized is critical and can make a major difference, even where resources are constrained. For example, Rwanda, a low-income country, reduced its NM rate from 41 in 1990 to 17 in 2016.

- NM varies even within a country depending on factors like household wealth quintile, education of mother and whether residing in rural or urban area.
- The country with the lowest NM is Japan and the country with the highest NM is Pakistan.

Effective Policy Actions for Countries with high newborn mortality

- Improving access to maternal and newborn health by having adequate number of health care workers, backed by facilities to deal with the main causes of NM, easily accessed by the community, etc.
- Providing quality healthcare which is not just about whether resources and services exist, but how they are deployed.

Situation in India
- *At 6,40,000 newborn child deaths in 2016, India has the largest number of babies dying in the world.*
- *The number of annual under-five deaths in India has gone below one million for the first time in 2016.*

- *The under-five mortality rate for girls was 11 per cent higher at 41 per 1,000 as against 37 per 1,000 for boys.*
- *India's current under-five mortality rate is 39/1000.*
- *With the current rate of decline, India is back on track to meet the Sustainable Development Goals (SDG) target for the under-five mortality of 25 per 1,000 live births by 2030.*
- *India's neonatal mortality rate (2016) is 25.4/1000.*

Related info - India Newborn Action Plan (2014)
- *It is India's committed response to the ENAP to advance the Global Strategy for Women s and Children's Health.*
- *Its goal is to attain Single Digit Neonatal Mortality and Stillbirth Rates by 2030.*
- *It is to be implemented within the existing **Reproductive, Maternal, Newborn, Child and Adolescent health (RMNCH+A)** framework of the National Health Mission (NHM).*
- ***Six pillars*** *of intervention include:*
  - o *Preconception and antenatal care*
  - o *Care during labour and child birth*
  - o *Immediate newborn care*
  - o *Care of healthy newborn*
  - o *Care of small and sick newborn*

Prachi Valley

Context:

- ☐ The Archaeological Survey of India (ASI) has discovered pottery pieces, and tools made of stones and bones believed to be of the pre-Christian era from a mound in Jalalpur village of Cuttack district, Odisha.
- ☐ Discoveries of ancient artefacts indicated that a rural settlement might have thrived in that period.
- ☐ These settlements could have had cultural and trade ties with other settlements in the Prachi Valley that had come up around the Prachi river, which gradually disappeared.

Facts for Prelims:

- ☐ Prachi Valley civilisation is believed to be earlier than that of Harappa and Mohenjo-Daro flourished on the banks of Prachi river. Prachi Valley civilisation has contributed a lot towards amalgamation, assimilation and proliferation of different religious faiths and cults.

The Prachi river, a tributary of Mahanadi, originates about 10 km away from Bhubaneswar. The river flows through Puri, Khurda, Cuttack and Jagatsinghpur districts and it is this region that is called the Prachi Valley.

Healthy States, Progressive India Report

Why in news?
Recently, NITI Aayog released a comprehensive Health report named Healthy States, Progressive India Report.

About the Report

- It is an annual report which will rank States and UTs on incremental changes in health outcomes and overall performance with respect to others.
- It has been developed by **NITI Aayog** in consultation with **Technical Assistance Agency of World Bank, Ministry of Health and Family Welfare (MoHFW)**, States and Union Territories, domestic and international sector experts and other development partners.
- It aims to promote a **cooperative and competitive spirit** among States and UTs to rapidly bring about

transformative action in achieving the desired health outcomes.

- The Health Index is based on three main domains which focus on outcomes, governance and information, and critical inputs–

Health Outcomes – 10 indicators weighing 70% of the total index score has been given the highest importance. Key indicators under this domain are Neonatal Mortality, Under Five Mortality Rate, Total Fertility Rate, and Sex Ratio at Birth etc.

- o **Governance and Information** - 3 indicators which weigh 12% are Data integrity measure, average occupancy of an officer (signifying stability in organization) and average occupancy of a full-time officer for all districts.
- o **Key Inputs and Processes** – 10 indicators weighing 18% are proportion of vacant healthcare, proportion of total staff for which an e-payslip can be generated etc.
- The states have been categorised based on the availability of data and the fact that similar states should be compared

amongst themselves. Therefore the states have been categorised as Larger states, Smaller States and UTs.

- Based on the above categories the states are grouped into

three categories – Aspirants (bottom one third states with score below 48), Achievers (middle one third state with score between 48 and 63) and Front runners with scores above 63.

- The composite score of the index is calculated for a base year i.e. 2014-15 and a reference year i.e. 2016-16. The incremental ranks are measure of the difference in performance between these two periods
- The data sources for the index are Sample Registration System, Health Management Information System, Central MoHFW data, State Report, National Family Health Survey, Civil Registration System etc.

- Health is a state subject, which makes the State

participation in achieving National Health Policy Targets and Sustainable Development Targets imperative. The health index is a welcome step towards encouraging health care initiatives.

- However, following steps can be taken to improve the process further
  - o As the Index ranks the performance of States and UTs, steps should be taken to link the Index with incentives to States and UTs.
  - o The data system in health should be improved to ensure timeliness, consistency, accuracy and relevance.

The Data from new thrust areas and new sources should be included for more comprehensive coverage such as private sector data.

The objective of the index is –

- *To develop a composite health index based on key health outcomes, health system and service delivery indicators.*
- *To ensure State and UTs partnership and ownership through Health Index data submission on web based portals*
- *Build transparency through independent validation by independent agencies.*
- *Generate Health Index scores and ranking of States and UTs based on year to year overall performance.*

THE GAP BETWEEN BEST-PERFORMING AND LEAST-PERFORMING STATES

INDEX	BEST-PERFORMER		LEAST-PERFORMER		GAP
Overall index	Kerala	76.55	Uttar Pradesh	33.69	42.86
Health outcomes	Kerala	82.89	Rajasthan	29.58	53.31
Key input and processes	Tamil Nadu	78.06	Uttar Pradesh	25.02	53.04

UN-SDG & National Health Policy: how states have performed versus goals

HEALTH INDICATOR	UN-SDG	NHP	BEST-PERFORMER	LEAST PERFORMER
Neonatal mortality rate	Under 12 by 2030	Under 16 by 2025	Kerala (6)	Odisha (35)
Under 5 mortality rate	Under 25 by 2030	Under 23 by 2025	Kerala (13)	Assam Madhya Pradesh (62)
Total fertility rate	Below replacement level (2.1)	Below replacement level (2.1)	Tamil West Bengal (1.6)	Bihar (3.3)
Low birth weight	NA	NA	Telangana (5.7)	Rajasthan (25.5)
Sex ratio at birth	NA	NA	Kerala (967)	Harayana (831)

Mahamastakabhisheka

Context:

- 88th *Mahamastakabhisheka* (head anointing ceremony) of the monolithic statue of Lord Bahubali has begun at Shravanabelagola, Karnataka.

About Mahamastakabhisheka:

- The *mastakabhisheka* is held once in 12 years. One of the biggest festivals for the Jain community, it honors Lord Bahubali, a revered Jain icon. According to Jain texts, Bahubali attained liberation from the cycle of births and deaths (moksha) at Mount Kailash and is revered as a liberated soul (Siddha) by the Jains.

- Bahubali is also called Gommateshwara because of the Gommateshwara statue dedicated to him and as lord "Kammateswara" from an inscription. The Gommateshwara statue was built by the Ganga dynasty minister and commander Chavundaraya; it is a 57- foot monolith situated above a hill in Shravanabelagola in the Hassan district, Karnataka state, India. It was built in around 981 A.D. and is one of the largest free-standing statues in the world.

India Health Fund

Why in news?

The India Health Fund (IHF), an initiative by Tata Trusts, in collaboration with the Global Fund has come forward to financially support innovations and technologies designed to combat tuberculosis and malaria.

Key facts

- TB and malaria pose long- standing health challenges for India. The two diseases account for over 4.23 lakh deaths and around 15 million lab-confirmed cases every year.

- It is aligned with the **country's goal of eliminating TB by 2025 and malaria by 2030.**

- The IHF aims to support individuals and **organisations with already germinated innovative strategies, services, products.** It is not a fellowship to do research from scratch.

- **The Global Fund** is designed to accelerate the end of **AIDS, tuberculosis and malaria** as epidemics. Founded in 2002, it is a partnership between governments, civil society, the private sector and people affected by the diseases.

Revitalization Infrastructure And Systems In Education

Why in news?
Government unveiled a new scheme named **Revitalization Infrastructure and Systems in Education** (**RISE)** in Union Budget, 2018.

About RISE
- It is a new initiative to **step up investments** in centrally funded institutions like IITs, Central Universities and others such institutes

Funding will be provided through Higher Education Financing Agency (**HEFA)**.

About HEFA
- It is a joint venture of MHRD Government of India and Canara Bank.
- RBI granted license to operate as Non-Banking Financial Company (**NBFC**)
- It seeks to introduce a **market-linked education financing structure**
- It aims to **lend low-cost funds** to government higher educational institutions.

Institute Of Eminence (IOE)

Why in News?
- ☐ Government constituted a panel, headed by N Gopalaswami, for identification of top 20 best higher education institutions.

Features of such institutions include-
- ☐ It should preferably be multidisciplinary and have **both teaching and research** focus of an exceptionally high quality.
- ☐ Apart from the regular courses, it should also offer **various interdisciplinary courses**, including in areas of emerging technology and interest as well as those

of relevance to the development concerns of countries like India.

- ☐ There should be a reasonably good **mix of domestic and foreign students**.
- ☐ There should be a **transparent merit based selection** in admissions, so that the focus remains on getting meritorious students.
- ☐ The **faculty student ratio** should not be less than 1:10 after three years of declaration as a World Class Institution.
- ☐ The Institution should have a **world-class library** with subscriptions to reputed journals in the areas of its course offerings.
- ☐ It should have **student amenities** comparable with that of globally reputed institutions.
- ☐ The Institution should have reasonably **large owned campus** with adequate space for expansion etc.

Reason for dismal performance on Higher education
- *Low numbers of PhD-qualified researchers, hampered research productivity and Innovation ideas.*
- *Inadequate faculty/student ratio in some universities.*
- *Less integration with world class technology enabled education.*
- *Old curriculum and less practical work in*

engineering colleges etc.
- *Inadequate infrastructure coupled with non-availability of fund to run the institutes.*

Issue Involved
- ☐ **On Institutes**
  - o **Non-applicability of reservation** system would face resentment from particular section of society.
  - o In the **absence of supervisory support** from UGC, in the long run these institutes could fall under political influence and might lose its quality of research.
  - o **Socio-Economic incentives** for the researcher should be provided in order to avoid brain-drain.
- ☐ **On ranking methodology**
  - o A heavy emphasis is placed on **subjective perception-based metrics** estimated using independently conducted surveys.
  - o The participation of India in general and academicians/researchers **in international ranking surveys** have historically been very low – thereby pulling down India's average performance.

Complex classification of Institutions of National Importance, Central, State, State Private, and Deemed to Be Universities and overregulation by various bodies such as UGC, AICTE, NBA, NAAC father hampers the ranking prospect for India Universities.

Institutions of eminence
- ☐ *The UGC (Institutions of Eminence Deemed to be Universities) regulations, 2017 will govern all such institutions that are conferred with this status, ensuring their complete academic, administrative and financial autonomy.*

☐ *These regulations will override all other UGC regulations and free the institutions of UGC's restrictive inspection regime, the regulatory control over fee and curriculum.*

Benefits to IoE

☐ *The IoE will enjoy administrative and financial autonomy in a wide range of matters, including faculty and staff salaries, student fees, course offerings and content, among others.*

☐ *Status of IoE would bring greater reputation which would attracts greater funding and increased collaborations with world class universities.*

Issue Involved

☐ **On Institutes**
  o **Non-applicability of reservation** system would face resentment from particular section of society.
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Way forward

☐ India should follow the US model of conducting the basic research in Universities, instead of current practice of conducting basic research in **specialized research**, which might be the reason for skewed enrolments in research.

☐ National Foundation for Research in Science, Technology, and Humanities with an annual non-lapsable grant of at least Rs 5000 crore to give research grants on a competitive non-discriminatory basis is needed.

Performance based incentives and audit of local state universities is critical for sound higher education system.

Education Development Impact Bond

Why in news?

The **British Asian Trust** created a **10-million-dollar Education Development Impact Bond** (**EDIB**) for India.

About the Bond

- It is intended as an **innovative and sustainable social impact investment tool** which will be tied in with performance and outcomes of educational initiatives in India.
- It will provide **funding** for delivering a range of activities including principal and teacher training, direct school management, and supplementary programmes.
- The concept of Development Impact Bonds is intended as a **result-oriented way** to attract new capital into development, with a strong emphasis on data and evidence.
- The focus is to **improve literacy and numeracy learning levels** for over 200,000 primary school students from marginalized communities in Delhi, Gujarat and Rajasthan.
- The bond has been described as a step towards **a greater focus on social impact financing** as a transformational tool for philanthropy.
- The UK government's Department for International Development (DfID) will contribute **technical assistance and insights** to the project as part of a wider partnership.

Technical Education Quality Improvement Programme (Teqip)

Why in news?
The government has decided to **employ graduates from premier colleges** like IITs, NITs etc to teach in engineering colleges in backward districts for a period of 3 years **as a part of TEQIP Phase 3**.

About TEQIP

- The scheme, launched by HRD Ministry in 2002, **aims to overhaul the quality** of technical education in the Low Income States and Special Category States (SCS).
- The project commenced with the **World Bank** assistance to Government of India to launch a TEQIP as a long term programme of 10-12 years and in 2 or 3 phases.
- The present 3rd Phase of the schemes has central, eastern and north-eastern region and hill states as its **focus states**
- **The measures under TEQIP include**:
  o **Institution based**: accreditation of the courses through NBA, governance reforms, improving the processes, digital initiatives, securing autonomy for the colleges.
  o **Student based**: improving the quality of teaching, teacher training, equipping the class rooms, revision of syllabus, industry interaction, compulsory internships for students, training the students in industry-relevant skills, preparing them for the GATE exam etc.

Way Forward
Temporary faculty can not prove as beneficial as permanent faculty so the state governments should take steps to hire permanent good faculty either from this pool of talented graduates or from outside this pool.

Swajal Yojana

Why in news?

- Recently, Ministry of Drinking Water and Sanitation launched Swajal Pilot project at Village Bhikampura, Karauli district, Rajasthan.

About Swajal Project

- It is a community owned drinking water programme which will not only ensure round-the-year availability of clean drinking water but also generate employment.
- Besides ensuring the availability of clean drinking water to every household round the year, the project would also generate employment.
- It is the **second project** under the Swajal Yojana. Prior to this, it has been launched in Uttarkashi district of Uttarakhand.
- 90% of the project cost will be taken care of by the government while the rest 10% of the project cost which will be contributed by the community.
- The project derives its name from an old Swajal project, a World Bank project dedicated to rural water and environmental sanitation launched in 1996 in UP.

National Achievement Survey

Why in news?
Recently, National Achievement Survey (NAS) was released by the HRD Ministry.

About National Achievement Survey
It assesses performance of students in five major subjects-English, Mathematics, Science, Social Science and Modern Indian Languages.

Comparison between National Achievement Survey and ASER	
National Achievement Survey	**ASER**
This is a school based survey	It is household based survey
Conducted by NCERT for students in class 3rd, 5th and 8th	Conducted by ASER Centre (Pratham)
It is based on a pen-paper test	One-on-one assessment
It takes into account the children enrolled in government schools.	All children irrespective of whether they are school going or not
Based on wide variety of skills	Based on foundational skills such as reading and math
For both urban and rural areas	For rural areas

Findings of the Survey
- The performance of students declined in environmental science, language and maths as one moves from class III to class VIII.
- Rural students scored higher than those in cities which is contrary to the perception that the quality of education in urban areas is superior to that in rural areas.
- Also, in classes V and VIII, OBC students outscored the general category.
- At all levels, average scores were lowest for ST students while SC students scored a tad higher.

Female students performed better than male students.

Pradhan Mantri Kaushal Vikas Yojana 2.0: An Assessment

Why in news?
The government's flagship skilling scheme —
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
is facing issues in providing placement to the
skilled candidates.

**Pradhan Mantri Kaushal Vikas Yojana
(PMKVY)** is the flagship scheme of the Ministry
of Skill Development & Entrepreneurship
(MSDE). The objective of this Skill Certification
Scheme is to enable a large number of Indian
youth to take up industry-relevant skill training
that will help them in securing a better livelihood.
Individuals with prior learning experience or skills
will also be assessed and certified under
Recognition of Prior Learning (RPL).
PMKVY was launched on on 15 July, 2015 to
provide training and skilling to 24 lakh youths.
The scheme was reviewed and **PMKVY 2.0** was
launched in October 2016. It aims to spend Rs
12,000 crore on skill training 10 million youth
between 2016 and 2020.

Changes from PMKVY to PMKVY 2.0

- Placement tracking has been made
  mandatory.
- setting up Model Skill Centres called Pradhan
  Mantri Kaushal Kendras (PMKKs), in
  districts.
- Focus has been shifted to getting greater
  participation of states, bringing district
  collectors into the picture to ensure delivery
  at the district level
- District-level data-crunching exercise to
  know the specific demand-supply conditions
  for each district
- Involvement of industry especially the
  MSME sector under cluster-based model
  such as training candidates in a group in a
  specific region.

Details

- ☐ According to latest data from the Ministry
  of Skill Development and
  Entrepreneurship an average of just over
  one out of six people trained under the
  scheme having found a job.
- ☐ The performance has improved since
  launch of PMKVY 2 in October 2016. As
  per the Union skill development ministry
  data, it had placed around 318,000 youth
  in jobs or self-employment over the last 17
  months out of 612,000 candidates who
  completed training under the PMKVY-2.
  However, the number fell short of its 70%
  placement target under the PMKVY-2.

Why shortfall?
PMKVY scheme is struggling because of **lack of
quality training** and **information asymmetry**
regarding the demand-supply dynamics of skilled
candidates.

Why success of PMKVY important?

- ☐ In India, about 12 million people enter the
  labour market every year. Providing
  gainful employment to such huge
  workforce is important for reaping
  demographic dividend, maintain social
  harmony and political stability.
- ☐ India's jobs problem has also attracted
  international attention. Both the World
  Bank and the International Labour
  Organization have flagged the need for
  quality salaried jobs in the country. India
  needs to create regular, salaried jobs with
  growing earnings rather than self-
  employed ones in order to join the ranks
  of the global middle class by 2047.

Way forward

- ☐ The problem with PMKVY is not its poor
  job placement record. The government
  should focus on making candidates
  employable.
- ☐ The government should not only be
  focusing on formal skilling but also on
  providing decent education, labour
  reforms and improving the ease of doing
  business.

Pradhan Mantri Ujjwala Yojana

Why in news?

The Cabinet Committee on Economic Affairs, chaired by the Prime Minister Shri Narendra Modi, has approved to enhance of the target of Pradhan Mantri Ujjwala Yojana (PMUY) from five crore to eight crore.

Details

The revised target of Pradhan Mantri Ujjwala Yojana (PMUY) will be achieved by 2020 with additional financial allocation of Rs 4800 crore.

Pradhan Mantri Ujjwala Yojana was launched in May 2016 through which cash assistance is given to the beneficiaries to get a deposit-free new LPG connection.

Initially, PMUY envisaged a target of 5 crore connections with an allocation of Rs. 8000 crore over a period of 3 years starting from FY 2016-17.

Earlier Eligibility: Any Below Poverty Line (BPL) family, whose information is included in the district BPL list prepared by the State government.

Details

- The revised target of Pradhan Mantri Ujjwala Yojana (PMUY) will be achieved by 2020 with additional financial allocation of Rs 4800 crore.

- The earlier scheme excluded genuinely poor households whose name was not included in Socio Economic Caste Survey (SECC) list.
- Now the Scheme will cover all SC/ST households, beneficiaries of PMAY (Gramin), Antyoday Anna Yojana (AAY), Forest dwellers, Most Backward Classes (MBC), Tea and Ex-Tea Garden Tribes, people residing in Islands and rivers etc. in addition to SECC identified households.

Present status

Under the PMUY, the original target was to release 3 crore connections by the end of FY 2017-

18, but as a result of efficient scheme implementation and monitoring, more than 3.35 crore connections have been released till date.

Social Media Centers

Why in news?

- ☐ The Ministry of Information and Broadcasting has approved the hiring of social media executives for sharper delivery of the government's message to the voters.

More about the News

- ☐ The social media wing will be setup the **Broadcasts Engineering Consultants India Limited.**
- ☐ One executive will be hired from each district.
- ☐ A new media wing is being set up by the Broadcast Engineering Consultants India Limited (BECIL) for the work.

Purpose

- ☐ These social media executive will analyse local news and help the government adapt to these responses.
- ☐ They will also analyze whether the government's message is taken positively or negatively.

Significance

It will give the government an opportunity to **know the ground level responses** of the people beyond the capital which earlier sketched a skewed picture.

Broadcasts Engineering Consultants India Limited

- It is a Government of India Enterprise under the Ministry of Information and Broadcasting
- It is a **Mini Ratna company** established in 1995.
- It provides **project consultancy services** and turnkey solutions encompassing the entire gamut of radio and television broadcast engineering.

World Cities Cultural Forum

Why in news?
Recently, Mumbai became the first Indian city to be a member of World Cities Cultural Forum (WCCF).

More form news

- Mumbai is a **cultural centre** which promotes culture through its entertainment and fashion industry, museums, temples etc.
- It would allow Mumbai to share ideas, technology, challenges and access cultures and art of other cities and broaden its perspective.

World Cities Cultural Forum

WCCF is the biggest forum of global network which provides a platform for 33 cities to share their culture, data-driven research and intelligence while exploring the vital role and impact of culture in future prosperity.

More Than 40 Languages In Unesco's Endangered List

Why in news?

- According to a list prepared by the UNESCO, 42 languages in India are endangered and maybe be headed for extinction. These languages are spoken by less than 10, 000 people**.**

Facts

- There are 22 scheduled languages in India mentioned in the Eighth Schedule (Article 344(1) and 351) of the Indian Constitution.

Apart from the 22 languages**,** there are 31 languages that have been given the status of official language by state governments and union territories.

- According to a Census Directorate report, there are 100 non-scheduled languages which are spoken by one lakh or more people

Government Initiatives

- **Government of India** launched a scheme known as **"Protection and Preservation of Endangered Languages of India" in 2014.**
- Under this Scheme, the **Central Institute of Indian Languages (CIIL), Mysore** works on protection, preservation and documentation of all the mother tongues/languages of India spoken by less than 10,000 speakers keeping in mind the degree of endangerment and reduction in the domains of usage.
- Under the programme, grammatical descriptions, monolingual and bilingual dictionaries, language primers, anthologies of folklore, encyclopedias of all languages or dialects especially those spoken by less than 10,000 people are being prepared.

UNESCO (United Nations Educational, Scientific and Cultural Organization) is responsible for coordinating international cooperation in education, science, culture and communication.

The UNESCO has categorized languages on basis of endangerment as follows:-

- Vulnerable
- Definitely Endangered
- Severely Endangered
- Critically Endangered

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App For MPS To Track Development

Why in news?

The Government recently introduced a new app called **UPaAI (unified planning and analysis interface) or 'solution' in English,** which will help the members of parliament to track the development work in their states.

More about the App

- It will provide an integrated platform for data on infrastructure and social indices for each constituency.
- It is expected to provide district-wise information to the MP on his/her constituency and help him or her take better decisions related to MPLAD funds and also other Central Scheme.
- It will be **monitored by PMO** and is in line with Digital India initiative.

In the next phase, it will be extended to include state schemes, and bring district magistrates and members of legislative assemblies on same platform.

Cauvery River Verdict

Why in news?

The SC increased Karnataka's share of the Cauvery water than what was awarded by the Cauvery Water Disputes Tribunal in February 2007.

Background

- Owing to Tamil Nadu's appeal in 1986 to constitute a tribunal for solving the issue under Inter-State Water Disputes Act, 1956, the Cauvery Waters Tribunal was established on June, 2, 1990.
- In 2007, after sixteen years of hearing and an interim order later, the Tribunal announced its final order.
- However, the current dispute started with SC's order to Karnataka government to release 15,000 cusecs of water a day for 10 days, to Tamil Nadu.

Constitutional and legislative provisions for inter- state water disputes

- **Article 262(2)** empowers Parliament with the power to by law provide that neither the Supreme Court nor any other court shall exercise jurisdiction in respect of any such dispute or complaint.
- **The Interstate River Water Disputes Act, 1956 (IRWD Act)** enacted under Article 262 of Constitution.
- **Seventh Schedule**
  - **Entry 17 of State List :** Water that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to entry 56 of Union List
  - **Entry 56 of the Union List**: Regulation and development of inter-State rivers and river valleys.

Significance of the judgment

- According to the SC the **principle of equality** among riparian States does not imply equal division of water; it suggests just and reasonable use and "drinking water requirement" must be placed on a higher pedestal.
- It sets down two principles that may have a ripple effect on other inter-state river water disputes
  - **Groundwater-**A certain quantity of water was reduced from the quantum allocated to Tamil Nadu, because of availability of groundwater in the state. Other water tribunals, such as Narmada Water Dispute Tribunal and Krishna Water Dispute Tribunal, had not considered groundwater to be a factor while apportioning water.
  - **Warrantable flexibility**- The city of Bengaluru had grown over the years thus, registering an ever- enhancing demand for all civic amenities. This is similar to the argument put forth by Karnataka in the ongoing **Mahadayi Water Disputes Tribunal** on the share of the river for addressing water scarcity in the Hubli-Dharwad region from the Malaprabha basin.
  - It referred to the **Helsinki Rules of 1966**, which recognize equitable use of water by each basin State taking into consideration the geography and hydrology of the basin, the climate, past utilization of waters, economic and social needs, dependent population and availability of resources.
  - It also refers to **the Campione Rules** in the context of the Cauvery dispute. These Rules hold that basin States would in their respective territories manage the waters of an international drainage basin in an equitable and reasonable manner.
  - An inter-State river like Cauvery is a **'national asset'**, and no State can claim exclusive ownership of its waters or deprive other States of their equitable share.

Cauvery Water Disputes Tribunal Award

WATER ALLOCATION
in tmc ft
Tamil Nadu: 404.25
Karnataka: 284.75
Kerala: 30
Puducherry: 7
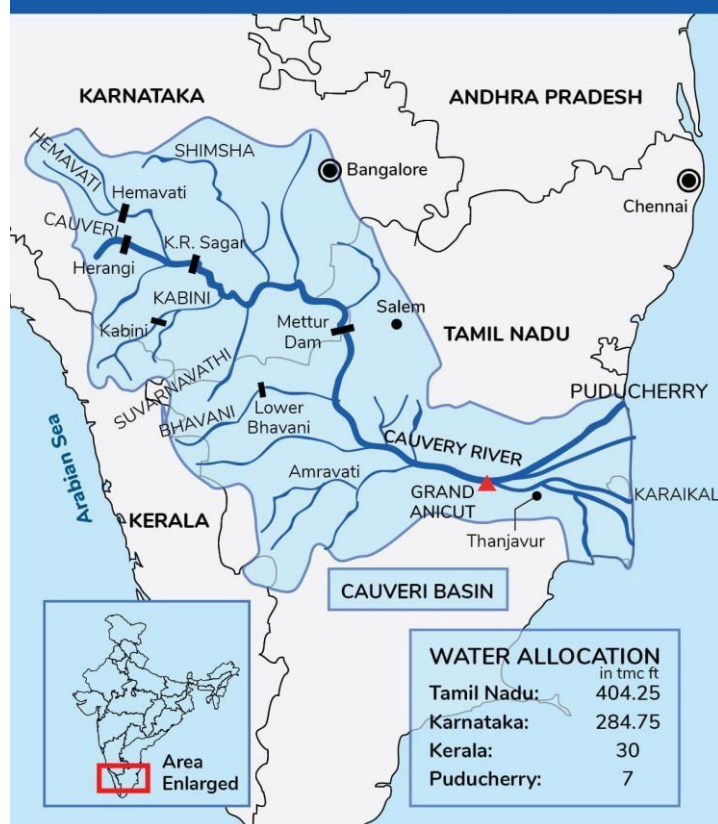
Inter-State River Water Disputes (Amendment) Bill, 2017

o It proposes a Single Standing Tribunal (with multiple benches) instead of existing multiple tribunals.
o It provides for the appointment of Assessors to provide technical support to the tribunal. They shall be appointed from amongst experts serving in the Central Water engineering Service not below the rank of Chief Engineer.
o It proposes to introduce mechanism to resolve the dispute amicably by negotiations, through a Dispute Resolution Committee (DRC) to be established by the Central Government.
o It provides for transparent data collection system at the national level for each river basin and for this purpose, an agency to maintain data-bank and information system shall be Appointed or authorized by Central Government.

Way forward

☐ Considering the fact that ground water situation is compounding the water stress in the states it is important to set up a **National Water Commission** by subsuming Central Groundwater Board and Central Water Commission as recommended by **Mihir Shah panel**.

☐ **Institutional Model for inter-state water issues**- The challenges of water-sharing in distress years remain because the country lacks institutional models for implementing inter-state river water awards. Thus, there is a need for a permanent mechanism to solve water disputes between states without seeking recourse to the judiciary.

☐ Furthering discussions over the **Inter-State River Water Disputes (Amendment) Bill, 2017** may also help in streamlining the procedure for resolving such disputes.

☐ **Following 4Rs-**There is a need to practice the concept of
the **4Rs** (Reduce, Reuse, Recycle, Recover) for water management in line to achieve **goal 6** (Ensure access to water and sanitation for all) **of the SDGs**.

☐ **Following National Water Policy**- Further the provisions given under the National Water Policy for rational use of water and conservation of water sources must be followed. Urban water management of cities like Bengaluru should incorporate conservation of wetlands that replenish ground water along with appropriate sewage treatment.

- **Other measures-** Water disputes need to be depoliticized and not be made into emotional issues linked with regional pride. Further, there is a need for scientific management of crop patterns by bringing out policy measures that promote water efficient crops and varieties.

Blue Aadhaar

Why in news?

- The **Unique Identification Authority of India has launched a blue Aadhaar Card/Baal Aadhar for children below five years**.

What is it?

- It will not include child's biometric information. The first biometric update is required at the age of 5 while the second biometric update is required at the age of 15 and it will be linked to the parents' UID.
- Although it is not mandatory for children below 5 years to get an Aadhaar however it will be useful for attending educational programmes and availing government scholarships.

Tribal Sub Plan

Why in News?

Recently, the Public Accounts Committee submitted its report on 'Tribal Sub-Plan'.

Background

• A comprehensive policy for development of Scheduled Tribes was prepared by an expert committee set up in 1972, which suggested Tribal Sub Plans (TSP) for scheduled Tribes in 1976 (5th Five Year Plan).

• The earlier approach for development intervention for SCs and STs relied solely upon "incidental" benefits flowing to them from various

interventions by the government. TSPs were introduced in order to ensure direct "policy-driven" benefits.

• Guidelines on formulation and implementation of TSP have been issued by planning commission from time to time to states/UTs and the ministries. The latest revised Guidelines were issued in 2014 for the implementation of TSP.

About TSP

- ☐ It **forms a part of annual Plan of a State/UT** and the funds provided under the TSP have to be in proportion to the ST population of each State/UT.
- ☐ The TSP funds are **allocated from the consolidated fund of India** under **article 275(I)** is a central sector scheme under which

100 per cent financial assistance is being provided to the states through the nodal Ministry of Tribal Affairs

- ☐ It aims to **bridge the gap** between the Schedule Tribes (STs) and the general population with respect to all socio-economic development indicators in a time-bound manner along with their protection against exploitation.
- ☐ It **involves in a single programme** of development the financial aspects,

physical planning and administrative considerations of the government, semi-government and voluntary agencies.

- ☐ The **benefits are in addition** to what percolates from the overall Plan of a State/UT.

It is not applicable to states where tribals represent more than 60% of the population.

- ☐ **Objectives of the TSP**
  - o Human resource development by enhancing their access to education and health services,
  - o Enhanced quality of life by providing basic amenities in tribal areas/localities including housing;
  - o Substantial reduction in poverty and unemployment, creation of productive assets and income generating opportunities
  - o Enhanced capacity to avail opportunities, gain rights and entitlements and improved facilities at par with other areas, and
  - o Protection against exploitation and oppression.

Observations & Recommendations of the Report

- ☐ **Financial Management- The segregation of funds into separate head of account, for their proper utilization and monitoring, has not been done.**
  - o **Thus, earmarking of funds into a separate head at every level should be made mandatory for release of funds along with a more proactive approach to keep track of monitoring, fund utilisation, and implementation of schemes.**

- ☐ **Non-lapsable pool for TSP fund** - Presently, the funds at the end of the financial year were not being transferred into a non-lapsable pool that could be

utilised later.
  o To remedy this, the committee recommended creation of a non lapsable pool for TSP fund.
- **Central nodal unit for overview-** The guidelines detailing the process for an oversight had not been put out by the Ministry of Tribal Affairs. Also, the funds were released to non-tribal populated states along with tribal majority states which is in violation of TSP guidelines.
  o Thus, **a central nodal unit should be created for oversight** which will facilitate better co-ordination and **Other Programmes/Schemes for Tribals**
  o efficient implementation of TSP through an online monitoring system.
- **Involvement of local community in the planning process-** A CAG audit report (2015) had highlighted that plans for schemes were being formulated without specific consideration of tribal beneficiaries as required under TSP.
  o The inputs/ **suggestions of local tribal community** should be sought before finalising the plan for implementation of any programme under TSP.

Other Recommendations
- All TSP ministries or departments should set up their own **dedicated nodal units** for effective monitoring of TSP at the implementation stage.
- **Imposition of penalty** upon erring officials and penalising the non compliant states or districts.
- There needs to be a **real time information sharing system** along with proper collection of data at the grass root level which would require the state and district level units to work in tandem with central unit.

Scheduled Tribes
- *Article 366 defined scheduled tribes as "such*

*tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under **Article 342** to be Scheduled Tribes for the purposes of this constitution".*
- *Article 342- The President may, with respect to any State or UT, after consultation with the Governor, specify the tribes or tribal communities or parts of or groups within tribes or tribal communities which shall, for the purposes of this constitution, is deemed to be scheduled tribes in relation to that state or Union Territory.*

Other Programmes/Schemes for Tribals

  o *Vocational Training in Tribal Areas.*
  o *Strengthening of Education among ST Girls in Low Literacy Districts.*
  o *Market Development of Tribal Products/ Produce (Tribal Cooperative Marketing Development Federation of India Ltd. (TRIFED).*
  o *State Tribal Development Cooperative Corporation for Minor Forest Produce.*
  o *Development of Particularly Vulnerable Tribal Groups (PVTGs).*
  o *National Scheduled Tribes Finance & Development Corporation.*

Reasons for underperformance of TSP

- Lack of unified planning, implementation and monitoring mechanism
- Lack of effective mechanism to gel central plan TSP funds and State Plan TSP Funds
- Scattered financial resources used in a scattered manner
- Lack of location specific perspective plan
- Lack of gap analysis
- Weakening of institutions specifically meant for delivery of goods and services to tribal population.

Corruption Perception Index 2017

Why in news?

Recently the Corruption Perception Index was released by **Transparency International**.

About Corruption Perception Index

- The index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople on a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.
- The latest Index is an analysis on the **relationship between corruption and freedom of the press, association and expression**.

Findings of the Report

- The index has found that more than two-third of the countries have scored below 50 with an average score of 43.
- India ranked 81st with a score of 40. The list was topped by New Zealand and Somalia ranking lowest.
- Among the neighboring countries, Pakistan was ranked at the 117th place with a score of 32, Bangladesh at 143th (score of 28), Myanmar at 130th (score 30), Sri Lanka 91st (score 38), Bhutan 26th (score 67) and China 77th (score 41).
- Sub-Saharan Africa and Eastern Europe and Central Asia are the regions with worst performance.
- The report also found that the countries with least protection for press and NGOs tend to have the worst rates of corruption.

Transparency International

It is a global civil society organization leading the fight against corruption. It is based in Berlin, Germany.

It also publishes Global Corruption Barometer.

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Human Resource For Gram Panchayats

Why in News?

An expert committee headed by Sumit Bose submitted its report on "Performance Based Payments for Better Outcomes in Rural Development (RD) Programmes'.

Background

☐ The implementation of RD programmes can be significantly improved if human resources at the Gram Panchayat (GP), Intermediate Panchayat and District Panchayat level are organized in such a way as to become **accountable to panchayats** and available to **support individual beneficiaries** & SHGs.

☐ The functions performed by the GPs can broadly be classified into two categories- **Core Functions** (not linked to specific schemes) and **Agency Functions** (for the implementation and overseeing of the schemes & programmes for RD).

☐ After independence India followed **community development approach** for rural development where the central government played a key role in Human Resources (HR) structure, training, etc.

☐ With the introduction of new generation RD programmes scheme specific staff was provided for the delivery of the programmes at various levels. Due to this, GPs are performing more and more of agency roles which are expected to further increase.

☐ Further, the **14th Finance Commission** has recommended the massive inclusion of untied grants to GPs which has substantially increased their role and responsibility but their supervision over HR is uneven across states.

Thus, there is a need to strengthen the human resource available to GPs for organizational and programme efficiency because without strengthening the core capacity of the GP, its performance in carrying out agency function will not improve.

Concerns related to HR at GP level

☐ **Non-accountability**- Personnel at GP level are in most cases not accountable to the GP and the Gram Sabha (GS), although they deliver crucial services like education, health and livelihood generation at that level.

☐ **Lack of Capabilities**- Their capabilities are not built over a period of time to enable them to assume other responsibilities or multi-task.

☐ **Lack of horizontal and vertical convergence** of action at the GP level and vertical integration is not ensured because of different departments and schemes under which they are appointed with specific mandates.

☐ **Lack of oversight**- There is poor oversight to check if the existing rules are being violated. Dependence on employees is high if elected functionaries in Panchayats, especially GPs, lack administrative experience. This can lead to exploitation of the situation by the staff or collusion between elected functionaries and officials.

☐ **Variation across states**- Wide variation across States in terms of engagement - qualification and mode of recruitment, duration, remuneration, travel allowances and other conditions for similar cadres. Also, there is **no HR policy** in majority of the States.

☐ **Variation in Remuneration**- There is no additional remuneration paid by other departments for additional work. This variation leads to migration of employees from one State to another; sometimes between one scheme to another.

Core Functions

- *The functions devolved by the state governments to the GP (Local government)*

are known as Core Functions. These are often mandated by law or sanctified by historical practices.

- *They include, inter alia, functions related to basic public sanitation, drinking water, internal connectivity, street lighting, maintenance of playgrounds, parks and aother commons, local taxation and generating own sources of revenue.*
- *The accountability of the GP towards the citizen is very clear in such cases.*

Agency Functions

- *In terms of various centre and state government schemes the GPs perform agency functions like planning, selection of beneficiaries, execution of works, broad oversight and so on.*
- *In such roles, the autonomy of the GP as a local government is restricted by the scheme guidelines.*
- *The accountability towards the people or the higher tier of government in most such cases is quite diffused.*

Recommendations of the Committee

Overall, according to the committee, the autonomy to take decisions within the framework of implementation while keeping in mind local priorities, bottom up flow of feedback and suggestions, room for innovation, incentivizing good performers, etc. all contributes towards improved performance by the grass root level staff.

Further, programme efficiency can be augmented by

convergence of resources and services, both horizontal and vertical. The specific recommendations made are-

- **In terms of Human Resources utilization-**
  - o There has to be a more systemati**c policy based approach** to human resources with clear norms for staffing, recruitment, remuneration, career advancement and following **competency based capacity building**.
  - o GPs could converge with the human resources of different departments. For diversifying works under MGNREGS, the human resources of various line departments could be formally used.
- **Information & Technology**-
  - o The existing Gram Rozgar Sewak (GRS) should be formally trained as Bare Foot Technicians to carry out essential engineering functions, including those related to water supply and sanitation.
  - o All employees should mandatorily possess knowledge of using computers for their work.
  - o On the IT front, Panchayats be encouraged to use ICT like transaction based software, adopt double entry system of accounting; universalize the SECURE software, upgrade the PES to support transaction at the GP level, etc.
- **Funding**- MoRD, MoPR and MDWS would jointly ensure that the funds earmarked for administrative costs are **untied from the schemes** and freedom given to the States to spend them for HR related costs at the GP and IP level.
- **Gram Panchayats and SHGs & NGOs**-
  - o Human resources of SHG network could be utilized by the GP in the form of activity groups trained to carry out particular tasks and in the form of trained Community Resource Persons (CRPs) from amongst the SHGs for performing specific functions and increasing participation during GSs.
- o NGOs could support GPs - in the local planning process, identification of beneficiaries, conduct of surveys and studies, improving social accountability, community mobilization for paying taxes and fees, claims and legal matters under FRA and PESA, conflict resolution, forging alliances between the GP and other institutions.

- o **District Rural Development Authorities** may be merged with **the DPs** in States where this has not yet been done for smoother functioning.
- o Other recommendations include avoiding the creation of new and small Panchayats, putting in place a functioning **grievance redressal mechanism**, better training of personnel, well established recruitment procedure, etc.

Social Accountability
Since, HR alone cannot automatically ensure improved performance unless complemented by appropriate accountability mechanisms, the committee has examined the need for social accountability and made following recommendations:

- *Strengthening of Gram Sabha*
- *Participatory Planning and Budgeting*
- *Pro-active Disclosures*
- *Right to Delivery of Services and Citizens' Charter*
- *Social Audit of Panchayats*

Niti Forum For Northeast

Why in News?

Union Government has ordered setting up the 'Niti Forum for North-East'.

More about the news

- **Task assigned to the forum-** Identifying various constraints in the way of accelerated, inclusive and sustainable economic growth of the eight states of the north-eastern region (NER) of India and recommend suitable interventions for the same. It will also review the development works in the NE.

- It may examine and address any other issues which are of importance but not specifically spelt out in its Terms of Reference.

- **Constitution**- It will be co-chaired by the Vice-Chairman of NITI Aayog and Minister of State, Ministry of Development of North-eastern Region (MDoNER).

The chief secretaries of all the eight states of the NER will be members of the forum. It will also have representations from various ministries.

Overcrowding Of Prisons

Why in news?

The Supreme Court has asked the National Legal Services Authority (NALSA) to provide details and figures of overcrowding of prisons.

More about the news

- SC is hearing a matter relating to inhuman conditions prevailing in prisons across the country.
- SC also agreed to hear issues related to standard operating procedure for Under Trial Review Committees (UTRCs) and responses received from States and Union Territories on open jails.
- According to the **Prison Statistics India 2015** report by the National Crime Records Bureau (NCRB), India's prisons are overcrowded with an occupancy ratio of 14% more than the capacity.
- Whereas according to government data 149 jails in the country are overcrowded by more than 100 per cent and that eight are overcrowded by margins of a staggering 500 per cent.

Reasons for Overcrowding

- **Occupancy by under trials**- 67% of the people in Indian jails are

under trials which is extremely high by international standards like it is 11% in UK, 20% in US and 29% in France.

- **Judicial backlogs**-Due to 3.1 crore cases (2016) pending in various courts of the country, jails across the country will remain overcrowded in the absence of any effective systemic intervention.
- **Inadequate prison capacity**- Most Indian prisons were built in the colonial era, are in constant need of repair and part of them are uninhabitable for long periods.
- **Restricted access to legal representatives-**Many inmates are

unaware of their rights and cannot afford legal aid, limited ability to communicate with lawyers from within the jail premises hampers their ability to defend themselves.

- **Problems in acquiring bail** - For poor and marginalized it is also difficult to get bail which leaves them no option but to stay in jails and wait for courts final order.
- **Unnecessary' arrests:** Over 60 per cent of arrests were unnecessary and such arrests accounted for 42.3 per cent of jail expenditure **(Law commission).**

Impact of Overcrowding Prisons

- **Violation of dignity and basic living conditions** go against UN's Standard Minimum Rules for the Treatment of Prisoners, which suggest that prison accommodation shall be mindful of "minimum floor space, lighting, heating and ventilation".
- **Fundamental rights and human rights** of people violated-despite a landmark Supreme Court ruling that Article 21 of the constitution entitles prisoners to a fair and speedy trial as part of their fundamental right to life and liberty
- **Difficult to supervise-**The prisons have 53,009 officials to take care of 4,19,623 inmates which amounts to **one official per eight inmates** leading to problems of ineffective monitoring.
- **Clashes between inmates-**Rampant violence and other criminal activities inside the jails as a result of excessive crowding.
- **Poor attention to reforming convicts**-functioning of prisons also becomes order-oriented, there is limited attention on correctional facilities and reform.
- **Social stigma-** Many prisoners lose their family neighbourhood and community ties and livelihoods. Moreover, prison time attaches social stigma to them as individuals and as community members.

Reform Measures

- **Prison manual 2016**, needs to be adhered to.
- As directed by the SC, the idea of **Open Prisons** must be further examined and

implemented by the government.

- For **better monitoring**, the **Prison monitors** should regularly visit jails, listen to prisoners' grievances, identify areas of concern, and seek resolution. CCTV cameras also need to be installed in all prisons to improve surveillance.
- Establishing an independent mechanism for **timely and effective investigation** of cases of custodial torture and for the rehabilitation and compensation for victims as investigation by police itself may be biased.
- **Reforming UTRCs** by inclusion of Jail Superintendents and members from civil society in the UTR Committees. Along with this a standard operating procedure (SOP) for the functioning of the UTR Committees also needs to be framed to make their functioning more transparent.
- **Following law commission recommendations like-**
  - o Under trials who have completed one-third of the maximum sentence for offences up to seven years be released on bail. Those who are awaiting trial for offences punishable with imprisonment of more than seven years should be bailed out if they have completed one-half of their sentences.
  - o Amending the bail provisions in the Criminal Procedure Code with emphasis on the early release on bail of under trials. (268th report 2017)
  - o Comprehensive anti-torture legislation on lines of Draft anti torture legislation (suggested by 273rd report)
- **Draft National Policy on Prison Reforms and Correctional Administration, 2007** recommended-
  - o Introduction of a provision for aftercare and rehabilitation services and the appointment of officers to provide legal aid for prisoners.
  - o It further envisaged establishment of a Research and Development wing,

and financial assistance to non-governmental organizations working for the rehabilitation of prisoners.
  - o Community-based alternatives to imprisonment for offenders convicted for relatively minor offences.
- **All India Committee on Jail Reforms** (also known as Justice Mulla Committee) suggested setting up of a **National Prison Commission** as a continuing body to bring about modernization of prisons in India. Lodging of under trials in jails should be reduced to bare minimum and they should be kept separate from the convicted prisoners.

Under Trial Review Committees (UTRCs)

- *They include the District Judge, the Superintendent of Police and District Magistrate.*
- *They are set up in every district which deliberates and recommends the release of under trial prisoners and convicts who have completed their sentences or are entitled to be released from jail due to bail or remission granted to them.*

Prison Manual (2016)

It aims at bringing in basic uniformity in laws, rules and regulations governing the administration of prisons and the management of prisoners all over the country. Key revisions in the manual include-

- *Access to free legal service*
- *Additional provisions for women prisoners*
- *Rights of prisoners sentenced to death*
- *Modernization and prison computerization*
- *Focus on after care services*
- *Provisions for children of women prisoners*
- *Organisational uniformity and increased focus on prison correctional staff*

Rationalization Of Autonomous Bodies

- *Inspection of Prisons, etc* **Why in news?**

The Union Cabinet has approved the proposal for closure of two Autonomous Bodies and the functions are proposed to be vested in Department of Health & Family Welfare (DoHFW).

Details

- ☐ Government had constituted an **Expenditure Management Commission** (EMC) in 2014 to look into various aspects of expenditure reforms to be undertaken by the

Government. It was mandated with the task of suggesting an overhaul for reducing the food, fertilizer and oil subsidies and other ways of controlling India's fiscal deficit.

- ☐ Based on the recommendations of **EMC,** NITI Aayog undertook a review of the 19 Autonomous Bodies under the DoHFW and submitted the Interim Report of the **Committee for the Review of Autonomous Bodies** (headed by Ratan Watal).
- ☐ The main concern of the Government is that Autonomous

Bodies are required to be reviewed and rationalized with a view to improve their outcomes, effectiveness and efficiency.

Bodies approved for closure-
Rashtriya Arogya Nidhi (RAN) was set up as a registered society to provide financial medical assistance to poor patients receiving treatment in designated central government hospitals.
Jansankhya Sthirata Kosh (JSK) was set up with a corpus grant of Rs. 100 crores in the year 2003 to raise awareness for population stabilization strategies.

Appointment To High Court Judiciary

Why in news?
Recently Supreme Court bench has clarified some aspects of appointment to High court judiciary.

Details

☐ The SC bench rejected a petition (challenging the appointment of two judges as Additional judges of Rajasthan HC, filed on the basis of previous SC judgments) stating that -

Retired judicial officers can be appointed as HC judges under **Article 217(2)(a)** as it did not make it mandatory that the appointee in question should be holding a judicial office at the time when the notification of appointment was issued.

Additional Judges of High Courts may also be appointed for tenure of less than 2 years (in context of **Article 224**) even if the pendency is more than 2 years as was disputed in S.P. Gupta v. Union of India case.

☐ Along with this it was held that the process of appointing HC judges needs to be done expeditiously.

Issues with delayed appointments of Additional Judges

☐ It **defeats the purpose of Art 224(1)** along with frustrating the hopes and trust of litigants facing delays due to lack of judicial capacity.

☐ **Judicial officers** get a chance for elevation (appointment as HC judges) when only a few years of service are left and undue delays on part of executive further reduces their tenures and sometimes their chances of elevation.

What may be done?

☐ **Definite timelines** may be drawn for each stage of the appointment process, so that the process is accomplished within a time-bound manner.

☐ **More transparency in the** matters of appointment may further unveil the causes behind delays.

☐ **Faster finalization of Memorandum of Procedure** for the appointment of judges in the higher judiciary through proper consultations between executive and judiciary.

☐ **Physical infrastructure** needs to be expanded and the necessary support staff be provided to de-clog the system.

☐ **Other Measures:** Reducing government litigation, compulsory use of mediation and other alternative dispute resolution mechanisms, simplifying procedures, recommending precise capacity reinforcements and use of technology

Article 217 - *Deals with the appointment and conditions of the office of a Judge of a High Court*

(1) Every Judge of a High Court shall be appointed by the President ... and shall hold office, in the case of an additional or acting Judge, as provided in Article 224, and in any other case, until he attains the age of sixty two years.

(2) A person shall not be qualified for appointment as a Judge of a High Court unless he is a citizen of India and

(a) Has for at least ten years held a judicial office in the territory of India; or

(b) Has for at least ten years been an advocate of a High Court or of two or more such Courts in succession.

Article 224- Deals with appointment of additional and acting Judges

(1) Additional Judges

Any temporary increase in the business of High Court or by reason of arrears of work... the President may appoint duly qualified persons to be additional Judges of the Court for such period not exceeding two years as he may specify.

(2) Acting Judge

Absence of or inability to perform duties by any Judge of a HC other than the Chief Justice the President may appoint a duly qualified person to act as a Judge of that Court until the permanent Judge has resumed his duties

(3) No person appointed as an additional or acting Judge of a High Court shall hold

*office after attaining the age of **sixty two years.***

***Article 224 A-** Appointment of retired Judges at sittings of High Courts (Ad-hoc Judges) by the Chief Justice of HC for any State with the previous consent of the President.*

Witness Protection In India

Why in news?
Bombay High Court recently asked CBI about the protection it was giving to the witnesses, as most of them turned hostile.

Importance of witness protection
- Witnesses are the eyes and ears of the justice system. When a witness to an offence is threatened, killed or harassed, it is not only the witness who is threatened, but also the fundamental right of a citizen to a free and a fair trial is vindicated.
- The edifice of administration of justice is based
- upon witnesses coming forward and deposing without fear or favour, without intimidation or allurements in court of law. If witnesses are deposing under fear or intimidation or for favour or allurement, the foundation of administration of justice not only gets weakened, but it may even get obliterated.
- This has been a big reason behind lower rates of conviction in the country. For instance, victims and witnesses of serious crimes are particularly at risk when the perpetrator is powerful, influential, or rich and the victims or witnesses belong to a socially or economically marginalized community.

Challenges in witness protection
- **Overlap in jurisdiction-** Police and public order are State Subjects under the seventh Schedule to the Constitution, while the criminal law and criminal procedure are under concurrent list, hence the overlap in jurisdiction creates problem in coming up with a concrete witness protection policy.
- **Issues with policing system** like Lack of independence and accountability affect their ability to provide protection to witnesses. Police force is highly understaffed, there are only 136 police men per one lakh population which is way below the standards of developed countries.
- **Balancing witness protection and rights of accused-** Anonymity of witness in many cases is crucial for their protection but section 327 of the Code of Criminal Procedure classifies the significance of an open trial given the right of the accused in knowing who is giving statement against him are very essential, principally if he has to defend and secure himself against such testimony.
- **Corruption in Administration-** The other major problem is that of deep rooted corruption in the administration and judiciary. Witness protection program cannot function properly with such an inefficient supervision.
- **Funding:** The witness protection programme would incur huge expenditures which shall be paid by the states. Lack of a fund can contribute to delays in witness protection orders, especially when it requires infrastructure such as installation of CCTV cameras and others.

Views of different commissions/Recent Developments in India
The subject has been addressed by several committees and commissions in past. For example-
- Law Commission in its various reports has made several recommendations for witness protection like making adequate arrangement for Witness Identity Protection vs Rights of accused
- The **Justice Malimath Committee** on Reforms of Criminal Justice System called for a witness protection law on the lines of the laws in USA and other countries.
- Government had also brought **Witness Protection Bill 2015**, however it has not been passed yet.

Conclusion
The first step in developing a witness protection

law is to acknowledge that witness protection is a duty of States. India needs to tackle the problem of witnesses turning hostile due to intimidation through various steps including-

- ☐ Witnesses may be given **protection before, during and/or after the trial**. A model similar to the Delhi model of Witness Protection may be developed for the whole country.
- ☐ India should develop an **effective legislation** for witness protection involving police, government and judiciary. Government should implement the necessary Acts, legal aspects would be looked by the judiciary and police should execute them.

Witness Protection Bill 2015 - The proposed Bill seeks to ensure the protection of witness by—

- *formulation of witness protection programme and constituting **National Witness Protection Council** and **State Witness Protection Councils** to ensure its implementation*
- *constitution of a "witness protection cell" to prepare a report for the trial court to examine and grant protection to the witness referred as "protectee" after being admitted in the programme;*
- *providing safeguards to ensure protection of Identity of witness;*
- *providing transfer of cases out of original Jurisdiction to ensure that the witness can depose freely;*
- *providing stringent punishment to the persons contravening the provisions and against false testimonies;*

Delhi Witness Protection Scheme

- ☐ *Delhi State Legal Services Authority (DSLSA) passes protection orders in each case after evaluating the threat.*
- ☐ *The Commissioner of Police is responsible for the overall implementation of the witness protection orders.*
- ☐ *Protection measures can include armed*

police protection, regular patrolling around witnesses' house, installing closed- circuit television cameras, and relocation.

Logistics Hub In Assam

Why in news?

☐ The road ministry announced a project to develop a multimodal logistics park in Jogighopa (Assam), backed by the Asian Development Bank.

Key facts

☐ The plan is to link Jogighopa with **road, rail, waterways and air transport facilities** along with container terminals, warehousing, non-cargo processing, a truck terminal, common facilities, support infrastructure and equipment.

☐ A special purpose vehicle, backed by the **Asian Development Bank (ADB)**, will be created to execute the project.

Significance of the hub

☐ Jogighopa will become India's gateway to South-East Asia as well as to the rest of the North-East

☐ The current transit corridors from mainland India to the North-East region pass through an area known as the **"Chicken's Neck"**—a narrow tract of land in India between the borders with Bangladesh, Nepal and Bhutan.

☐ Since it is close to these borders and cannot be expanded, the North-East region **requires an alternative route** for providing connectivity to the rest of India.

☐ The Indo-Bangladesh road route, along with the National Waterways-2, provides such an option.

India's soft power

Why in news?
Ministry of External Affairs (MEA) has decided to develop a "soft power matrix" to measure the effectiveness of India's soft power outreach and establish linkages between India's soft power and tangible outcomes in area of diplomacy.

Importance

- Soft power has become an important instrument in public diplomacy and complements official diplomacy efforts such as Act East Policy, the Connect Central Asia policy, and developing strategic aid and trade partnerships in Africa.
- Increased cultural exchanges are more likely to increase

public knowledge and appreciation of India in foreign countries.

- Use of hard power generally carries with it mass global public disapproval whereas soft power lends itself more easily to the information era and constitutes a country's principal asset.
- Though the hard power of geopolitics remains prevalent, increasingly countries vie—for influence, for investment, for retention and attraction of both native and foreign human talent—in the realm of soft- power.
- Soft power is critical not only for a nation's role in the world, but also for purposes of identity and, ultimately, prosperity. For example: a country with reasonably radiant soft power will appear attractive to its diaspora, thereby reinforcing important links both for talent and for wealth.

Manifestations of India's Soft power
Indian Council of Cultural Relations (ICCR) is nodal government agency responsible for India's soft power projection.

- **Incredible India Campaign:** It was conceptualized in 2002 for India's brand building and to create a distinctive identity for the country in collaboration with Ministry of Tourism.
- In 2006, the Ministry of External Affairs set up a **Public Diplomacy Division** to promote India overseas.
- **Ancient Medicine systems and Yoga** have also become increasingly popular in the developed world.

Celebration of the International Day of Yoga on the 21st of June globally is also a very effective manifestation of our soft power outreach.

- **Efforts to reach out to Indian Diaspora** and building connections with foreign business interests and foreign aid and development programme.
- **Use of Social Media and IT** to not only connect with youth but also build "nation-brand" India. Organising campaigns for Make in India, holding trade fairs abroad and organizing events such as Raisina Dialogue has also added to presence of India as soft power across world.
- **Project Mausam and Spice Route projects** to revive India's traditional connections with the Eastern Africa and to the South East Asia and the opening the Silk Road, the ancient trade route that spanned across Asian continent and parts of Europe respectively.
- India has also exercised its soft power through growing influence of Bollywood, educational scholarships extended by MEA, extending humanitarian assistance and disaster relief to help mitigate the adverse impact of natural disasters.

Challenges

- Since 'soft power' is perceived to be an intangible ingredient of a state's power, it is difficult to measure the definite impact of these measures.
- Further the soft power so far has functioned independently of government policies, without the backing of a focused policy or adequate backing with financial resources.

☐ Along with this critics of Soft power say that soft power cannot substitute hard power and it helps only if the country has built up its conventional sources of economic and military power.

Conclusion

☐ In conclusion, soft power can undoubtedly play an important role in generating goodwill. However, India's use of soft power has been hampered by key limitations such as paucity of resources, especially in comparison to countries like China, and the lack of a clear strategy due to internal contradictions.

☐ Besides, soft power by itself will not suffice in the absence of palpable economic and hard power. For instance, South East Asia and Africa may have strong strategic convergences with India, and yet it is China's economic prowess that gives it the decisive edge

Soft Power
- *It is the ability of a country to persuade other nations of a line of thought in consonance with its goals.*
- *It is derived from three resources i.e. a country's culture, its political values and its foreign policy.*

Hard Power
- *It means a nation or political body's ability to use economic incentives or military strength to influence other actors' behaviours.*
- *It includes economic sanctions, trade embargos, physical military intervention and the actual threat of military or economic force.*

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New development bank funded project of Rajasthan

Why in news?

- Recently, Indian government signed a Loan Agreement for financing of Rajasthan Water Sector Restructuring Project for the Desert Areas, with New Development Bank
- This project will rehabilitate the 678 km long **Indira Gandhi Canal system** built during 1958-63.

Need for NDB

- Slow pace of reforms at international financial institutions resulting in not fulfilling of the desire of major developing countries to play a bigger role in global governance.
- It demonstrates the viability and dynamics of the BRICS despite all the skepticism and criticism in recent years.
- To develop and deepen local capital markets in its member states by providing loans denominated in local currency in addition to US dollar.

A financial institution which is fast, agile and responsive to the rapid pace of change in technology and the needs of its clients.

About NDB

- NDB is an initiative of BRICS countries signed into **Agreement** during the sixth BRICS summit in **Fortaleza** in 2014 and it came into **existence** as a legal entity in **Ufa** Summit in 2015.
- The five member states have an equal share.
- The **core** purpose of the NDB is to mobilize resources for **infrastructure and sustainable development** in BRICS countries.

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INDIA-CANADA

Why in News?

Recently, the Canadian Prime Minister visited India.

Background

- **Historically India- Canada did not enjoy a very close relation, a situation that the government tried to mend in 2015 when India's PM visited Canada (first visit to Canada by India's head of government in 42 years).**
- **During this trip a landmark nuclear energy deal with Canada was secured for the supply of uranium over a five-year period, formally ending a long-standing moratorium on Canadian exports of nuclear materials to India.**
- **Also, the issue of Khalistan kept India-Canada ties on ice through three decades from 1980s.**

Details

- Extensive talks were held on key issues **of counter-terrorism and extremism** as well as ways to boost trade ties by investing in mutual growth.
- Both sides agreed on working together on Climate Change, Oceans, Space and Clean Energy.
- Further, **six pacts were signed** on energy cooperation. Both leaders agreed to expand the scope of the Canada-India Ministerial Energy Dialogue with a particular focus on electricity, energy efficiency and renewables.
- Canada implicitly shared India's reservations on **China's mega Belt and Road Initiative**. The two sides agreed on their analysis of the situation in **the Korean Peninsula**.
- Canada also assured its support for India's bid in **Nuclear Suppliers Group**. **India Canada Relations**
- **Politically** there have been various high

level visits between the two countries.

- **Strategically** their relations are thin. Canada has little to offer in terms of assisting India with core strategic objectives that include China, Pakistan, the subcontinent, maritime security in the Indian Ocean rim and beyond.
- **Trade and Economy**- The two-way trade has increased from C\$ 4.2 billion in 2010 to C\$8.02 billion in 2016.
  - The total Indian FDI in Canada in 2016 was C \$2811 million, while Canadian FDI in India was C\$ 1210 million.
  - Talks are going on concluding of **Bilateral Investment Promotion and Protection Agreement (BIPPA)**
  - and **Comprehensive Economic Partnership Agreement (CEPA).**
  - **Cooperation in Energy sectors-** The Nuclear Cooperation Agreement (NCA), which was signed in June 2010, came into force in September 2013.The Appropriate Arrangement (AA) for the NCA was signed in March 2013, under which a Joint Committee on Civil Nuclear Cooperation was constituted.

- **Education Sector-** MOU on Cooperation in Higher Education was signed in June 2010, which covers student and faculty exchange, research and curriculum development, organization of workshop and seminars, etc.
- **S&T and Space**- ANTRIX, the Commercial arm of ISRO, has launched nine nano-satellite under a commercial arrangement with University of Toronto - Institute of Aerospace Studies (UTIAS) among many others.
  - The PSLV-C23, which was launched in June 2014 carried two Canadian satellites

☐ **Indian Diaspora**- Canada is home to over 1.2 million Persons of Indian Origin (PIO) who comprise more than 3% of its population.

  o Four PIOs now hold Cabinet berths (up from two of Ministers of State in the last Cabinet).

Potential of Cooperation

☐ Being an open economy Canada is an attractive destination for both the **students and professionals**. Here, the Indian diaspora can play a crucial role in further creating opportunities.

☐ In terms of **energy security** since Canada has sizeable reserves of oil and gas, over time it could become a key partner in India's quest for energy security.

☐ On the **security front**, a stable balance of power in the wider Indo-Pacific will serve both Indian and Canadian interests. There is a common perspective on freedom of navigation and over-flight "throughout the Indo-Pacific

region" and respect for international law, including the United Nations Convention on the Law of the Sea.

☐ Given the Chinese increasing rise in the Arctic region where Canada stands a stakeholder, closer institutional collaboration and intelligence sharing is also the need of the hour.

Conclusion

As a capital, technology and innovation-rich economy and an open, inclusive and multi-cultural society, Canada is highly relevant to India. It is sharpening its role as a Pacific Ocean power. India's commitment to peace and prosperity in the Indo-Pacific should deepen geopolitical affinity. Thus mutual interests are likely to impel the two nations to strengthen their strategic partnership. However, for this vision to turn into reality, the Canadian leadership needs to demonstrate greater sensitivity to India's core concerns.

Irritants between the two countries

- **Khalistan factor is** *the biggest issue between the two countries due to the perceived*

proximity of the Canadian PM with extremist supporters. Various developments in Canada in relation to the Khalsa extremists and their supporters have made India questioned their stance many a times.

- ***In terms of trade***, *despite an increase in overall trade the situation does not reflect the true potential. India accounts for only 1.95% of Canada's global trade.*

- ***Businesses*** *between the two countries have been sluggish given the differences in industrial structures and geography.*

- ***On the energy front,*** *limited cooperations exists despite Canada's strengths in the area.*

AIIB Approves Loans For Projects In India

Why in news?
Asian Infrastructure Investment Bank (AIIB) approved USD 1.5 billion in loans to India for infrastructure-related projects.

Significance for India
- India needs huge investment in energy, roads, housing, urban development and other infrastructural projects.
- Borrowing from AIIB is **preferred** as:
  o It charges about 1-1.5 per cent interest with long term repayment including five-year grace period.
  o The Bank provides lending on liberal terms allowing the government to decide on how to use that money.
- With AIIB is investing in various projects including Mumbai Metro, Andhra Pradesh new capital Amaravati's development and irrigation network in West Bengal, India emerged as the top borrower of the Bank.

About AIIB
- AIIB is a multilateral development bank with 84 countries as members.
- It is headquartered in Beijing.
- AIIB was proposed at an APEC summit in Bali in 2013 and started its operation in January, 2016.
- China, India, Russia and Germany are the four largest shareholders of the Bank with 26.06%, 7.5%, 5.93% and 4.5% respectively.

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India Joins Ashgabat Agreement

Why in news?
India has recently joined the Ashgabat agreement.
About Ashgabat Agreement

- The agreement, aiming to establish **international transport and transit corridor** linking central Asia with the Persian Gulf, came into force in 2016.
- It is an agreement between the Governments of Iran, Oman, Turkmenistan and the Republic of Uzbekistan agreed upon in 2011 in Ashgabat. Qatar was also part

of agreement initially but subsequently withdrew in 2013.

- Kazakhstan and Pakistan joined the grouping in 2016. India had deposited the Instrument of Accession in April 2016.
- The **Iran-Turkmenistan-Kazakhstan (ITK) railway** line will be the major route under the Ashgabat Agreement. It had become operational in December 2014 and has also been included as part of INSTC.

Significance

- o Ashgabat agreement also aims to **synchronize with the Eurasian railway connectivity project and International North–South Transport Corridor** encompassing ship, rail and road route for moving freight between India, Russia, Iran, Europe and Central Asia.
- o **India's trade with Afghanistan** is likely to touch $5 billion after Ashgabat projects and INSTC comes into operation because Afghanistan is diverting its trade from Karachi to Chahbahar and Bandar Abbas port in Iran.
- o Joining the Ashgabat Agreement would make it easier for India to reach out to Central Asia's **strategic and high-value minerals** including uranium, copper, titanium, ferroalloys, yellow phosphorus, iron ore etc.

TRANS-PACIFIC PARTNERSHIP-11 (TPP-11)

Why in news?

On the sidelines of **APEC summit** in Vietnam, 11 countries on the Pacific Rim have decided to go ahead with the Trans Pacific Partnership despite the USA's withdrawal.

Background

TPP was a free trade agreement between USA and 11 other Pacific Rim nations i.e. Australia, New Zealand, Singapore, Malaysia, Brunei, Vietnam, Japan, Canada, Mexico, Peru and Chile, and was signed in 2016. However, USA withdrew from it.

Details

- The agreement has now been renamed as **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPATPP).**
- Enhanced policy space (Country-Specific) and regulatory flexibility will be provided in the new deal in terms of 'withdrawal', 'accession' and 'review' in contrast to the old deal. The chapter on Intellectual Property will also see significant change.
- The ratification process has also removed 85% cumulative GDP threshold, and now the deal will come into force if 6 out of 11 countries ratify it.

This deal is yet to be ratified.

INDIA-UAE

Why in news?
- Indian Prime Minister recently visited UAE.
- He was also the guest of the honour at **World Government Summit held at Dubai**.

Background
- India and the UAE enjoy strong friendship based on age-old cultural, religious and economic ties between the two nations. The UAE occupies a key place in India's **West Asia policy**.
- India and UAE have last year elevated their relationship to

Comprehensive Strategic Partnership agreement and have move beyond just buyer-seller relationship.
- Lately there have been various official visits between the two countries like the Crown Prince Sheikh Mohammed bin Zayed Al Nahyan was invited as chief guest for Republic Day.

Importance of UAE
- **Energy Security:** UAE is the **5th largest import source** and accounts for about 6% of our total crude imports.

Agreements signed related to energy security
- o Acquisition of 10% participating interest in the offshore Lower Zakum oil and gas field
- o To operationalize the filling up of a strategic petroleum reserve cavern in Mangalore
- **Investment:** The UAE government has committed USD 75 billion towards developing Indian infrastructure.
  - o Emirates Airline announced to help Andhra Pradesh develop its aviation sector
  - o The NIIF entered into an agreement with a Dubai based firm for investment up to USD 3 billion.
- **Important trading Partner:** Bilateral trade with UAE stood at around USD 50 billion last year with UAE's investments

in India in areas ranging from smart cities to real estate.
- **Indian Community**- More than 2.5 million Indians live in the

UAE, which is among the largest number of expatriates anywhere in the world, repatriating $13.6 billion a year to India.
- **Shared Security Concern**- The two countries have a common interest in ensuing maritime security in the Indian Ocean and the Gulf region.
  - o Further, given the current state of flux in West Asia, India sees the UAE as an important partner to maintain peace and stability in the region. In this background India looks to enhance security cooperation with the Gulf countries including the UAE to counter terrorist threats and combat online radicalization.
- **Defense-** Defense exercises are increasingly undertaken. For example, 'Desert Eagle II', a ten day air combat exercise, was held in May-June 2016 between the air forces of India and UAE
- **Maritime security-** India approved the bilateral pact on maritime education and training and a MoU to facilitate and promote maritime transport, simplification of customs and facilitation of use of existing installations for the disposal of waste.

Challenges
- **Slow implementation process**- As far as investments are concerned, the systemic problem faced due to slow implementation of various projects from Indian side is a major obstacle.
- **Lack of commercial clarity in UAE**- Indian companies operating in the UAE also face problems due to lack of clarity in

many aspects of commercial regulations, labor laws and lack of transparency on part of Emirati businesses.

- **Decrease in opportunities for Indian workers**- There is also a need to smoothen problems faced by Indian migrants due to cumbersome and strict regulations that favour the Emirati employers and at times leads to serious problems for Indian workers, especially unskilled workers.

Way Forward

The growing engagements between India and the UAE has to be seen within the broader contexts of UAE's policy of engaging with Asia to improve economic prospects and India's search for foreign investments to expedite economic growth and address the threat of extremism and terrorism.

- **Medical tourism** can be an important area where India can attract UAE given India's high quality man

power in medical sector and improving medical infrastructure in the country.

- There are further untapped potentials in the arena of **renewable energy**. The cost for production and transmission of solar energy in the UAE are a fraction to that of India and this is a priority area for the UAE government.
- India has some of the finest **higher education institutions in engineering and management** fields and given their cost-effective and world-class education, they can be a major attraction for students from UAE.
- In defense sector, there is a need to further enhance cooperation through joint training programs for Indian and UAE officers.

INDIA-OMAN

Why in news?

Recently, Indian Prime Minister paid an official visit to Oman.

Key facts

- During the meet India has secured access to the key **Port of Duqm** in Oman for military use and logistical support.
- The services of the port and dry dock will be available for maintenance of Indian military vessels.
- It is situated on the south eastern seaboard of Oman, overlooking the Arabian Sea and the Indian Ocean. It is strategically located, **near the Chabahar** port in Iran.

Significant outcomes of visit

• Importance of Duqm Port-

o Strategically- Duqm will be a part of India's maritime

strategy to counter Chinese influence and activities in the region.

- With the Assumption Island being developed in Seychelles and Agalega in Mauritius, Duqm fits into India's proactive maritime security roadmap

- To its north is the Chabahar port in Iran which is crucial to bypass Pakistan's restriction on movement of Indian goods to Iran and Afghanistan.

- It will also act as a counter to the nearby Gwadar port in Pakistan, which China is developing.

o Economically- The Port also has a special economic zone, where about $1.8 billion investments are being made by some Indian companies.

• Energy Security- India informed Oman's ruler about the strategic oil reserve that India plans to build and invited Oman to participate in the project.

o The Omani side briefed India about its own strategic oil reserve project in Ras Markaz near the port of Duqm.

Improving India's ties to West Asia- Duqm can become a stepping stone for India's greater involvement with the region, which can enable India to ensure better security and safety of the 7 million strong Indian Diaspora.

MoUs signed in

• The field of tourism cooperation

• Academic and scholarly cooperation

• Cooperation in the peaceful uses of outer space

• Cooperation between Foreign service institute, Indian Ministry of External Affairs and Oman Diplomatic Institute

• Cooperation in field of Health

Agreements signed on

• Legal and judicial cooperation in civil and commercial matters

• Mutual visa exemption for holders of diplomatic, special, service and official passport Annexure to the MoU on military cooperation

Easy to PICK – "UPSC Monthly Magazine" Feb - 2018

Proposal To Put Pakistan On FATF Watch-List

Why in news?

Financial Action Task Force is likely to put Pakistan on its terrorist financing watch list or the "grey list" from June.

More about the news

- Putting a country in "grey list" does not involve a direct legal or penal action but involve **increased scrutiny** from watchdogs, regulators and financial institutions.
- Pakistan had earlier been on the FATF 'grey list' from 2012 to 2015, following a detailed assessment by

Asia Pacific Group (APG) in 2010 and lack of follow-up action by Islamabad to curb terror financing.

- Now Pakistan is required to submit an action plan to FATF to curb terror financing and money laundering by May.
- If the FATF approves the action plan in June, it will make a formal announcement about placing Pakistan on the grey list. Should Islamabad fail to submit an action plan, or if the FATF does not accept it, the group can place Pakistan on its **blacklist** or "Non-Cooperative Countries or Territories" (NCCTs), along with North Korea and Iran.
- The decision was **long overdue** given Pakistan's blatant violation of its obligations to crack down on groups banned by the **Security Council Resolution 1267** sanctions committee that monitors groups affiliated to the Taliban such as the Lashkar-e-Taiba, Jaish-e-Mohammed and the Haqqani network.

Financial Action Task Force

- *It is an inter-governmental body established in*

*1989 and housed in OECD headquarters in **Paris**.*

- *It has **37 members** currently and India is also a member.*

- *Its objectives are to set standards and promote effective implementation of legal, regulatory and operational measures for **combating money laundering, terrorist financing** and other related threats to the integrity of the international financial system.*

TAPI Gas Pipeline

Why in News?
- Recently, work on Turkmenistan, Afghanistan, Pakistan and India (TAPI) Gas Pipeline project has been started in Afghanistan.

About TAPI project
- The pipeline is proposed to supply natural gas by **TAPI Pipeline Company Limited (TPCL)** from Turkmenistan to India.
- The supply route runs from Galkynysh field (Turkmenistan) – Daulatabd -Herat – Kandahar – Chamman – Zhob – DG Khan – Multan - Fazilika (Pak-India Border).
- Nearly, 33 billion cubic metres of gas to be pumped annually, by the beginning of year 2020.
- The project is being funded by the **Asian Development Bank (ADB)** and transit fee would be incurred by India to Pakistan and Afghanistan.

Significance of the Project
- It will reopen a historic route that reconnects South Asia to Central Asia.
- It will bring India and its neighbours much needed **energy at competitive pricing**, and could easily supply a quarter of Pakistan's gas needs, about 15 per cent of India's projected needs, as well as Afghanistan's requirements.
- TAPI will provide an **alternative supply source of gas** with dependable reserves leading to enhanced energy security by further diversifying the fuel basket to the benefit of Indian economy.
- It may contribute to reconciliation in Afghanistan, by creating economic opportunity for the Afghan people. It could create jobs in the war-torn country thus playing a strategically crucial role for the **peace and security of the region**.
- The project also could help **to improve relations between India, Pakistan and Afghanistan** reducing chances of conflict between these two nuclear powers, further helping them find ways for cooperation.

Challenges
- **Finance:** Nearly, 85 % of the project cost is expected to be incurred by Turkmenistan, which is currently facing economic hardship due to decline in global energy prices, further resulting into low energy export earnings.
- **Security:** The route of TAPI gas pipeline in Afghanistan and Pakistan are hotbeds of terrorism and regional conflict (Baluch separatists fighting the Pakistan army). Moreover with the proposed withdrawal of NATO (especially US) forces from Afghanistan, further intensifies the security questions.
- **Geopolitics:** Diplomatic relations of India and Pakistan have been on unexpected rupture. Moreover, growing ambitions of China in terms of economic and military power, may put the TAPI project into jeopardy.

Way forward

- **Larger participation**: Turkmenistan may allow India acquire stake in Upstream sector (industry finds and produces crude oil and natural gas) to ensuring that any deliberate gas supply disruption from Pakistan could be avoided.
- **Complementary projects:** Turkmenistan may also allow international oil and gas companies to acquire stakes in its onshore oil/gas fields in order to assist the TAPI project.

Asian Development Bank (ADB)
- It was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation.
- As a multilateral development finance institution, ADB provides:loans, technical

assistance and grants.

- Its clients are member governments, who are also shareholders. In addition, it **provides direct assistance to private enterprises of developing member countries** through equity investments and loans.

- It is composed of 67 members (including India), 48 of which are from the Asia and Pacific region.

- Its top 5 shareholders are : Japan(15.6%) ,United States(15.6%),People's Republic of China(6.4%), India(6.3%) and Australia(5.8%)

INDIA AND IRAN RELATIONS

Why in news?
President of Iran, Hassan Rouhani recently visited India.

More about the visit
- India and Iran have signed nine agreements which included areas like strategic Chabahar port, Avoidance of Double Taxation, Extradition Treaty, Cooperation in the field of Traditional Systems of Medicine, Agriculture and Allied Sectors.

Significance of India-Iran relations
- **Energy security-** Iran is the third largest supplier of crude to India. It has also the world's second-largest reserves of natural gas which could be well leveraged by India.
- **Connectivity- The Chabahar port** allows India to strategically bypass Pakistan and reach land-locked Afghanistan and Central Asian countries. India views it as a strategic response to China's development of Gwadar port in Pakistan and its aggressive pursuit of Belt and Road Initiative.
  - India is currently involved in constructing a 560 mile long railway line linking the Iranian port with the Hajigak in southern Afghanistan which is close to **Zaranj-Delaram Highway.**
  - Iran is the key link to provide connectivity to Central Asia and Europe, via the **International North South Transport Corridor (INSTC)**.
- **Trade and investment-** India will set up plants in sectors such as fertilizers, petrochemicals and metallurgy in **Chabahar Free Trade Zone (FTZ)**. This will promote India's energy security while providing financial resources and employment opportunities to Iran.
  - Discussions on the exploitation of **Farzad B gas field** are underway.

- India has been actively pursuing the **Iran–Pakistan–India (IPI)** gas pipeline project.
- Iran is a big market for India for **India's agro-products, software services**, automobiles, petrochemical products among others, here the scale could be substantially increased. Crucially, Tehran has consistently offered New Delhi very favourable terms, including non-dollar oil sales.
- **Geopolitical-** Iran is a major player in securing stability in the overall West Asian region, especially with respect to India to maintain a balance between Shia-Sunni conflict and Arab-Israel conflict.
  - **Securing sea lanes of communication (SLoC),** combating piracy in the Indian Ocean region. India aspires to become a net security provider in the Indian Ocean region where Iran is a major stake holder. Iran is also important in countering the string of pearls expansion of China in the Indian Ocean.
  - **Terrorism**: Iran is an important player in fighting global terror groups such as Al-queda, ISIS, Taliban among others. Tackling Cyber terrorism is also very important where both the country could collaborate. Moreover Iran can also play a major role in dealing with other organized crimes such as drug trafficking, arms dealing etc.

Challenges
- **Political turmoil-** The present government in Iran is under considerable pressure both on the domestic front, in political as well economic areas, and in the realm of Iran's international ties

Uncertainty over the nuclear deal- The uncertainty over the fate of the nuclear deal Tehran signed with the West in 2015 poses a big challenge to Indian foreign policy. Experts warn that a US exit from the deal would affect India's

planned investments in Iran

- ☐ **Bilateral trade-** On bilateral trade the biggest stumbling block is banking channels. The two sides are now discussing the possibility of **alternate payment mechanism,** in addition to the current channel through UCO Bank for rupee payments.
  - o Indian exports to Iran have steadily declined from $4.9 billion in 2013-14 to $2.379 billion in 2016-17, increasing the trade deficit.
- ☐ **The Farzad-B gas and oil fields-** Another issue is the pending negotiations over the Farzad-B gas and oil fields that India has expressed its interest in.
- ☐ **India-relation with Israel & USA -** Israel, one of the closest US allies in the region, has also been vocal against the nuclear deal, and considers Iran its biggest security threat. India's relationship with the United

States, and American concerns about Iran have also affected the India-Iran relationship.

- ☐ **India relation with Gulf countries-** Iran's relations with Saudi Arabia remain tense. India has reinforced its historical ties with countries on both sides of the Gulf. This may come out to be an issue**.**
- ☐ **Kashmir Issue-** Iran's supreme leader Ayatollah Khamenei equated the on-going Kashmir conflict with that of Yemen and Bahrain has also created suspicion on India.

Conclusion

There are a large number of areas in which the interests of India and Iran coincide like connectivity, energy, infrastructure, trade, investment, security, defense, culture, people-to-people contacts among others both the countries should leverage their strengths to build a robust and mutually beneficial relationship.

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Instability In Maldives

Why in news?
- ☐ Recently the President of the Maldives declared a state of emergency.

India-Maldives relations
- ☐ India established **formal diplomatic relations** with Maldives after the independence of Maldives from the British rule in 1966.
- ☐ Operation Cactus was **India's military aid** of 1600 soldiers to Maldives to fight the armed attack of the Liberation Tigers of Tamil Eelam (LTTE) supported rebel groups in 1988 for an attempted coup.
- ☐ India has provided **liberal economic aid** and cooperated with Maldives for improving its Infrastructure.
- ☐ India **provided bottled water** through its helicopters to Maldives when its only water treatment plant collapsed in December 2014.
- ☐ India shares very **close military ties** with Maldives by having two helicopter bases, integration of radars and Indian Coast Guard surveillance along Maldivian coast. India also aims to remain as a net security provider to Maldives.

Contemporary situation
- ☐ Under the current regime of Maldives, since 2013, India-Maldives relations have been deteriorating. Maldive's closeness to China has increased as big infrastructure projects have been given to Chinese companies and Chinese naval ships were allowed to dock in Male.
- ☐ The current situation is very serious as democratic institutions are being subverted which would make it difficult for Indian Government to negotiate a better relation with Maldives, this calls for India's intervention in Maldives.

But unlike India's operation Cactus, where request for intervention was from the sitting president, in the present case the demand for intervention is from opposition parties. The situation does not meet the requirements articulated by the 'responsibility to protect' doctrine, under Article 2 of the UN charter and India's traditional policy of non-intervention in the internal affairs of other sovereign countries.

Way forward
India should involve in political mediation between the government and Opposition, to restore order in Maldives and facilitate conditions for the upcoming elections due in next few months. A democratic Government would be in the best of interests for both Maldives as well as India. India must get considerable international support for the same.

India's stakes in Maldives
Maldives is strategically located in the Indian Ocean, and India being a major power in the Indian Ocean region has the highest stake in the stability of Maldives for various reasons like-
- Securing sea lanes of communication, Fighting piracy and sea based terrorism,
- Countering China's string of pearls policy,
- Making Indian ocean a conflict free zone and restoring its status as sea of tranquil,
- Exploring blue economy and Enhancing trade.
- Security of Indian expatriates working there.

GS-III

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State Start-Up Ranking 2018

Why in news?

Recently, Department of Industrial Policy and Promotion (DIPP) launched State Start-up Ranking 2018.

About State Start-up Ranking 2018

- Government had launched **Start-Up India** initiative in 2016 to build a **robust Start Up ecosystem** and nurturing **innovation and providing opportunities** to build entrepreneurs, drive economic growth and generate large scale opportunities in our country.
- **State Start-up Ranking** has now been launched to foster **competitiveness** among Indian states and UTs and access **interventions on key areas** that are crucial for **healthy Start Up ecosystem**.
- The tools for ranking are –
  o State and Union Territory Start-up Ranking Framework (see figure for pillars)
  o Compendium of Good Practices for Promoting Start-ups in India.
  o Start-up India Kit – It is a one-stop guide on all the benefits available to startups from the Startup India initiative.

For ranking the states, the framework is spread across 7 areas of intervention along with 38 action points with an overall score of 100.

Start-Ups in India

- India is the third largest start up hub in the world with 20% of the start-ups emerging from tier 2 and tier 3 cities.
- The major start-ups in India comprise of tech based (close to 45%) and about 72% being young founder below the age of 35 years.
- The growth drivers of the flourishing start-up ecosystem are – government focused on policy start-ups, demographic dividend, rapid urbanisation, large number of internet users and India being an emerging market.

FRAMEWORK PILLARS	# OF ACTION POINTS	SCORE ASSIGNED
1 Startup policy and implementation	13	17
2 Incubation support	3	20
3 Seed funding support	2	15
4 Funding support: Angel and venture funding support	3	10
5 Simplified regulations	4	13
6 Easing public procurement	5	14
7 Awareness and ourtreach	8	11
TOTAL	**38**	**100**

Easy to PICK – "UPSC Monthly Magazine" **Feb - 2018**

'Port Logistics: Issues & Challenges In India' Report

Why in news

Recently**, Port Logistics: Issues & Challenges in India** report was released by advisory firm Dun & Bradstreet (DNB) on behalf of Niti Aayog.

Highlight

- Report looked into the issues and challenges pertaining to the ports sector and proposed policy measures to strengthen it.
- Three **major findings** of the report are -
  1. Processes and operations across the ports are not standardised or uniform.
  2. Costs and time for key processes are unpredictable and there is an unacceptable level of variation across ports as well as within port.
  3. Several government initiatives taken need to be followed through to completion.
- Other major common problems across ports are

port congestion, **custom clearance, shipping line issues & charges**, **documentation & paperwork** and **regulatory clearances**.

The study also introduced **Port Performance Index For more about port sector, refer to January 2018 CA**

Port Performance Index

- It is an attempt to benchmark performance of various ports by combining qualitative perception of stakeholders with quantitative outcome based data.
- It ranked 13 major ports which handle around 67% of India's maritime trade, on their performance:
  - **Good Score**: Jawaharlal Nehru Port, Kamarajar port, Visakhapatnam Port
  - **Average Score:** Cochin, Kandla, Paradip, Chennai, Mormugao, New Mangalore and V.O.Chidambaranar Port
  - **Poor Score**: Haldia, Kolkata and Mumbai Port Trust.

RBI WITHDRAWS SDR, S4A

Why in news?

Recently, RBI has withdrawn various schemes which were launched to resolve the problem of bad loans.

Schemes withdrawn

- **Strategic Debt Restructuring Scheme-** Under SDR, banks who gave loans to a corporate borrower got the right to convert full or part of their loans into equity shares in the loan taking company.
- **Scheme for Sustainable Structuring of Stressed Assets (S4A)-** It allowed lender (bank) to acquire equity of the stressed project. It was intended to restore the flow of credit to critical sectors including infrastructure.
- **Corporate Debt Restructuring Scheme** – It aimed for the reorganization of a distressed company's

outstanding obligations to restore its liquidity and keep it in business through negotiation between distressed companies and their creditors.

- **Joint Lenders' Forum (JLF)** – was constituted for revitalizing stressed assets in the system. It comprised of banks who have given loan to the concerned borrower entity.
- **Flexible Structuring of Existing Long-Term Project Loans** or **5/25 refinancing** - It allowed banks to extend long-term loans of 20-25 years to match the cash flow of projects, while refinancing them every 5 or 7 years.

Why were the restructuring mechanisms withdrawn?

- With the enactment of the Insolvency and Bankruptcy Code, 2016 (IBC), RBI decided to substitute the existing guidelines with a harmonised and simplified generic framework for resolution of stressed assets.
- Problems with restructuring mechanisms like,
  - o **Rigidity-** Lenders (Bankers) had complained about the one size-fits-all

approach of the RBI as different companies had different problems that gave rise to bad loans.

- o **Limitation of bankers** to deal with assets in diversified companies, lack of forensic audits before restructuring loans etc.
- o Unsecured creditors, such as suppliers of raw materials often approached courts delaying the whole process.

Insolvency and Bankruptcy Code, 2016 (IBC)

- *Clear, coherent and speedy process for **early identification of financial distress** and resolution of companies and limited liability entities if the underlying business is found to be viable.*
- ***Debt Recovery Tribunal and National Company Law Tribunal** to act as Adjudicating Authority and deal with the cases related to insolvency, liquidation and bankruptcy process in respect of individuals and unlimited partnership firms and in respect of companies and limited liabilities entities respectively.*
- *Establishment of an **Insolvency and Bankruptcy Board of India** to exercise regulatory oversight over **insolvency professionals, insolvency professional agencies and information utilities**.*
- *Enabling provisions to deal with cross border insolvency.*

CRILC (Central Repository of Information on Large Credits) is responsible for collecting, storing and disseminating credit data to banks on credit exposures of Rs. 5 crore and above.

How will these new guidelines help the bad loan problem?

- ☐ The new rules will instil a sense of transparency, more investor confidence in the financials of banks and change the way banks do business.
- ☐ There will be greater prudence in lending. The tolerance for defaults is being lowered considerably. This will ensure loan repayment terms are more realistic.
- ☐ Banks will also pay better attention to developing risk management frameworks, something the government has been trying to push as part of its banking reforms package along with recapitalisation.
- ☐ The new norms will also instil some discipline in the corporate sector on honouring debt servicing commitments on time. With the insolvency and bankruptcy code, there are higher chances of a company getting liquidated, prompting better promoter behaviour.

However, there is also a concern that the strict timelines could mean that a larger number of accounts go into insolvency and haircuts that banks may need to take & the probability of liquidation in some accounts may also rise.

LIBOR (London Interbank Offer Rate)

- It is the global reference rate for unsecured short-term borrowing in the interbank market.
- It acts as a benchmark for short-term interest rates. It is used for pricing of interest rate swaps, currency rate swaps as well as mortgages.
- It is an indicator of the health of the financial system and provides an idea of the trajectory of impending policy rates of central banks.
- The Indian equivalent is known as **The Mumbai Inter-Bank Offer Rate (MIBOR).**

Dry Port

Why in news

Recently, **Commerce Ministry** announced overhauling of the infrastructure standards **in Dry Ports or Inland Container Depots (ICD's).**

About Dry ports

- They are inland terminal, directly connected to a seaport by rail or road, which provides similar services as that of a seaport such as handling, temporary storage, inspection and customs clearance for international freight etc.
- They are known to improve logistics, supply chain and reduce capacity constraints faced by sea ports

Issues with ICD's

- ICDs in India containerize only 17 to 18% cargo, below the international standards of 76 to 77 % due to various reasons:
  - o **Under-Utilisation of Dry Port**: Utilisations vary from as low as 20% to as high as 85% in certain regions, making business uneven.
  - o **Near Government Monopoly**: Nearly 70 % of ICDs are owned by government-owned **Container Corporation of India,** a Navratna company established under Companies Act**.**
  - o **Location Issue**: ICD are unevenly distributed in country, which negatively impact its sustainability.
  - o **Poor Connectivity**: Rail and road connectivity network to the ICDs are not sufficient
  - o **Poor Investment Environment**: Investments in ICDs are largely dominated by domestic companies while Global companies have refrained from investing in it.

Significance

- **Boosting Export:** Efficient Dry port infrastructure would help in achieving the country target of 5% share in world exports, which needs to grow at an average rate of over 26% for the next five years.
- **Achieving economies of scale**: Involvement of ICD will help in **reducing the logistics cost**, as currently it account for 14-15% of manufacturing costs, which is among the highest in the world.
- **Synergizing with Sagarmala project (port-led development):** Under this, Government aims to reduce logistics costs for EXIM and domestic cargo which if complemented with ICD development would lead to overall cost savings.

Way Forward

- o **Locational factor**: To be a sustainable business model, an ICD must be surrounded by a manufacturing and consumption hub.
- o **Augmenting Infrastructure**: Developing infrastructure in and around ICDs is crucial to attract investments into the sector.

- o **Promoting Partnership**: ICD in partnership with either a third-party logistics company or a shipping line could provide favorable revenue avenues for ICD.
- o **Improving regulatory framework** by benchmarking it with international best practices

Linking Swift To Core Banking

Why in news?

The Reserve Bank of India has directed banks to link the **SWIFT** with the **core banking solutions (CBS)** of banks by April 30 as the failure of SWIFT-CBS link led to recent fraud at PNB.

More on news

- **Letters of undertakings** (LoUs) from a PNB branch in Mumbai were taken to secure overseas credit from other Indian lenders.
- LoU is a letter of assurance or guarantee issued by one bank to branches of other banks to meet a liability on behalf of an importer, based on which foreign

branches offer credit to buyers

- **SWIFT (Society for World Interbank Financial Telecommunication System platform),** promoted in 1973 by banks globally, is used to transmit messages relating to cross border financial transactions. SWIFT

enables secure, seamless and automated financial communication between users.

- On receiving message through SWIFT, banks abroad (mostly branches of Indian banks) especially in the case of Indian firms provide funds to them.
- This credit which is against import documents is

normally for 90 days and this facility is used regularly especially by companies which are in the business of

gold, gems and jewellery.

- Companies take recourse to this form of funding as the costs of raising money overseas are relatively lower compared to rupee funding.
- This is essentially a short term foreign currency loan on which banks charge 60 to 90 basis points over the **LIBOR**.

Core banking solution (CBS)

- It is a back-end system that processes daily banking transactions and posts updates to accounts and other financial records.
- It allows customers to manage their accounts and use various banking facilities from any part of the world. In simple term, there is no need to visit your own branch to do banking transactions.
- **e-Kuber** is the CBS of Reserve Bank of India. It provides the provision of a single current account for each bank across the country, with decentralised access to this account from anywhere-anytime using portal based services in a safe manner.

Draft National Auto Policy 2018

Why in news?
Department of Heavy Industries has proposed a draft National Auto Policy for the holistic development of automobile industries in India.

Why needed?
To provide a comprehensive policy framework so that automotive industry grows as per goals of **Automotive Mission Plan 2016-26 (AMP 2026)** i.e. to make India one of the top 3 in world in engineering, manufacturing and exports of vehicles and auto-components.

Key Proposals

- Develop a **comprehensive long term roadmap** for the development of automotive industries and define emission standards after Bharat Stage VI in accordance with the global standards by 2028**.**

- Develop a road map for **reduction in CO₂ emissions** through Corporate Average Fuel Efficiency (**CAFE**) system by 2022, and provisions of penalties/incentives afterwards. CAFE norms require cars to be 30% or more fuel efficient from 2022 and 10% or more between 2017 and 2021

- Introduce a composite **length and emissions based criterion for vehicle taxation** to neutralize impact on GST revenue and increase share of greener vehicles.

- Achieve **harmonisation of standards in next 5 years** in line with UNECE WP.29 (United Nations Economic Commissions for Europe-Working Party of experts on technical requirement of vehicles) to eliminate a major technical barrier to trade.

- **Improve skill development and training ecosystem** through improved accountability of ASDC (Automotive Skill Development Council) by linking its funding to performance and implementation of a Labour Market Information System (LMIS) by ASDC to match demand and supply of skilled labor.

- **Promote Innovation and R&D** – by scaling up indigenous R&D with commercially viable innovations, implementing an outcome-based funding scheme for Industry- Academia collaboration and Propose and implement tax exemption on different levels of R&D expenditure

- **Promote auto components manufacturing** by developing capabilities and technology improvement in identified areas for auto component manufacturing, harmonising AIS (Automotive Industry Standards) and BIS (Bureau of Indian Standards) for safety critical auto components, offering fiscal support for technology improvements in auto components sector and supporting **auto component cluster programs** in dedicated regions to establish shared training and testing facilities.

- **Fast track adoption of Bharat New Vehicle Safety Assessment Program** (**BNVSAP**) through upgrading testing facilities as per BNVSAP and make it mandatory for fleet purchases in identified public and private sector (taxis, rental cars etc.) to be of minimum BNVSAP rating

- **Define a Green Mobility roadmap for India** and expediting adoption of green mobility in public domain. A national plan for establishment of public infrastructure for green vehicles should also be defined and roll out of **FAME** (Faster Adoption & Manufacturing of Hybrid and Electric Vehicles) Scheme should be strengthened.

- **Monitoring and review** - In addition to the continuous monitoring, the Department of Heavy Industries (DHI) will conduct an independent assessment and mid-term review of the Auto Policy in the year 2022. Also the effective implementation of these policies will require co-ordination across different ministries (Ministry of Heavy Industries and Public Enterprises, Ministry

of Road Transport and Highways etc.), thus, formation of a nodal body is proposed by the policy

- **Other measures include** - Implement measures to increase exports of vehicles and components, conduct a detailed study to assess the logistics challenges being faced by the auto industry, ensure upgradation of test facilities in alignment with overall industry roadmap.

Bharat Stage (BS) VI norms
- *They are emission standard norms to regulate the output of air pollutants from internal combustion engine equipment, including motor vehicles.*
- *All automobiles in India BS-IV compliant from 1 April 2017*
- *The target is to adopt BS-VI norms from 1 April 2020, skipping BS-V.*
- *Thus, two changes are required in vehicle's engine*
  - *Diesel particulate filter – to remove particulate matter or soot from diesel exhaust*
  - *Selective catalytic reduction technology – to reduce the oxides of nitrogen in the engine exhaust*

It would also require upgraded fuel quality from BS-IV standards to BS-VI standards, i.e., from concentration of 50 parts per million (ppm) to 10 ppm.

What is Green Mobility?
- *It refers to all those mobility options which emit lower CO_2 g/km than pure internal combustion engine vehicles. Based on current technological maturity and commercial viability, we have following green mobility options:*
  - *Bio-Fuel and Methanol Based mobility*
  - *CNG based mobility*
  - *Electric and Hybrid Mobility (xEV)*
  - *Hydrogen Energy and Fuel-cell based mobility*
- *Such technologies have potential to revolutionise the transportation of people and goods. India lags far behind China,*

USA, Norway, and United Kingdom in use of Green mobility options.

The Ombudsman Scheme For NBFCS

Why in News?

The Reserve Bank of India (RBI) has recently launched the Ombudsman Scheme for Non-Banking Financial Companies (NBFC).

☐ To begin with, the Scheme will cover **all deposit-taking NBFCs**. Based on the experience gained, the RBI would extend the scheme to cover NBFCs having asset size of Rs. 1 Billion & above with customer interface.

What is NBFC?

An NBFC is a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/ stocks/ bonds/ debentures/ securities issued by Government, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.

They are registered with RBI under Section 45-IA of the RBI Act, 1934.

Difference between banks & NBFCs

- NBFCs cannot accept demand deposits;
- NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself;
- Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.

Importance of NBFCs:

- Non-Banking Financial Companies (NBFCs) bring in diversity and efficiency to the financial sector and make it more responsive to the needs of the customers.
- The NBFC sector, as a whole, accounted for 17 per cent of bank assets and 0.26 per cent of bank deposits as on September 30, 2017. NBFCs depended largely on public funds for funding their balance sheets.

Why needed?

☐ Strong growth in advances by NBFCs and rising complaints against non-banking finance companies (NBFCs) regarding deficiency in services.

☐ The present Banking Ombudsman doesn't cover NBFCs.

☐ The Financial Intelligence Unit has put 9,491 NBFCs under the high-risk category because of non-compliance with Prevention of Money Laundering Act.

About scheme

☐ It would provide a **cost-free and expeditious complaint redressal mechanism** relating to deficiency in the services by NBFCs covered under the scheme.

☐ One or more officers at the RBI **not below the rank of General Manager**, may be appointed as ombudsman for **tenure of 3 years**.

☐ The offices of the NBFC Ombudsmen will function at **four metro centres** viz. Chennai, Kolkata, Mumbai and New Delhi so as to cover the entire country.

☐ **A customer can file a complaint** with the ombudsman if the NBFC rejects the complaint or does not respond within a month.

☐ **Grounds of complaint** - like non-payment or delay in payment of interest, non-repayment of deposits, lack of transparency in loan agreement, non-compliance with RBI directives, levying of charges without sufficient notice to the

customers and failure or

delay in returning the securities documents despite repayment of dues etc.

- **Powers of ombudsman** to call for information from concerned NBFC and power to award compensation not exceeding 1 lakh rupees.
- The complainant/ NBFC has the **option to appeal** against the decision of the Ombudsman before the Appellate Authority.

The ombudsman will be required to **send an annual report** to the RBI governor on 30 June containing general review of the activities of his office during the preceding financial year and other information required by the central bank.

What is FIU-Ind?

- Financial Intelligence Unit – India was set by the Government in 2004 to provide quality financial intelligence for safeguarding the financial system from the abuses of money laundering, terrorism financing and other economic offences.
- It is an independent body reporting directly to the Economic Intelligence Council (EIC) headed by the Finance Minister.
- It is a multidisciplinary body with members from various government departments including Central Board of Direct Taxes (CBDT), Central Board of Excise and Customs (CBEC), Reserve Bank of India (RBI), Securities Exchange Board of India (SEBI), Department of Legal Affairs and Intelligence agencies**.**

Functions

- Receiving, processing, analyzing and disseminating information relating to suspect financial transactions.
- Coordinating and strengthening efforts of national & international intelligence, investigation and enforcement agencies in pursuing the global efforts against money laundering and related crimes.

National Productivity Council (NPC)

Why in News?
Recently, NPC celebrated National Productivity Day and National Productivity Week on its 60th anniversary.

About NPC

- It is an **autonomous organization** under the administrative control of the Department of Industrial Policy and Promotion to promote productivity culture in India.
- Established as a **registered society in 1958** by the Government of India, it is a **tri- partite non-profit organization** with equal representation from the government, employers and workers' organizations, apart from technical and professional institutions including members from local productivity councils and chamber of commerce on its Governing Body.
- It provides training, consultancy and undertaking research in the area of productivity.
- It carries out the programmes of the Tokyo based **Asian Productivity**

Organization (APO), an inter-governmental body of which the Government of India is a founder member.

- It has been appointed as one of the National Monitoring and Implementation Unit (NMIU) for the implementation of **Lean Manufacturing Competitiveness Scheme** under National Manufacturing Competitiveness programme.

"Industry 4.0 Leapfrog Opportunity for India" has been selected as the **theme** for the National Productivity Week -2018.

About Industry 4.0

- *Being called as the next industrial revolution, it is characterized by the increasing digitization and interconnection of products, value chains and business models.*
- *It would mean **the convergence of real and virtual worlds**-the next phase in bringing together conventional and modern technologies in manufacturing.*

*This will result in the **"Smart Factory"**, which is characterized by versatility, resource efficiency, ergonomic design and direct integration with business partners.*

National Manufacturing Competitiveness Programme
*Its main **objective** is to enhance the global competitiveness of manufacturing Micro, Small and Medium Enterprises (MSMEs) by intervening through following components:*

- *Lean Manufacturing Competitiveness Scheme (It aims at improving the overall productivity of MSMEs by reduction of wastes with the help of lean manufacturing concepts.)*
- *Design Clinic Scheme.*
- *Technology & Quality Up-gradation support for MSMEs (TEQUP).*
- *Promotion of ICT in manufacturing Sector.*
- *Building Awareness on Intellectual Property Rights (IPR).*
- *Entrepreneurial & Management Development of SMEs through incubators.*

Banning Of Unregulated Deposit Schemes Bill And Chit Funds (Amendment) Bill, 2018

Why in news?

To protect the savings of the investors, the Union Cabinet has given its approval to introduce the two bills in the Parliament :-(a) Banning of Unregulated Deposit Schemes Bill, 2018 & (b) Chit Funds (Amendment) Bill, 2018.

Why needed?

- In the recent past, there have been rising instances of people in various parts of the country being defrauded by illicit deposit taking schemes. The worst victims of these schemes are the poor and the financially illiterate, and the operations of such schemes are often spread over many States.
- Companies/ institutions running such schemes exploit existing regulatory gaps and lack of strict administrative measures to dupe poor and gullible people.
- The Finance Minister in the

Budget Speech 2016-17 had announced that a comprehensive central legislation would be brought in to deal with the menace of illicit deposit taking schemes.

- **Recent scams:** West Bengal-based Saradha Group scam (at least Rs20,000 crore of deposit-holders' money is at risk after the sudden closure of the firm), Rose Valley scam etc.

Salient Features of the bill

- It contains a **substantive banning clause** which bans Deposit Takers from promoting, operating, issuing advertisements or accepting deposits in any Unregulated Deposit Scheme.
- It creates **three different types of offences**, namely, running of Unregulated Deposit Schemes, fraudulent default in Regulated Deposit Schemes, and wrongful inducement in relation to Unregulated Deposit Schemes.
- It provides for **severe punishment and heavy pecuniary fines** to act as deterrent.
- It has adequate provisions for disgorgement or **repayment of deposits** in cases where such schemes nonetheless manage to raise deposits illegally.
- It provides for **attachment of properties/ assets** by the **Competent Authority**, and subsequent realization of assets for repayment to depositors. Clear-cut time lines have been provided for this.
- It enables **creation of an online central database**, for collection and sharing of information on deposit taking activities in the country.
- It **defines "Deposit Taker" and "Deposit"** comprehensively.
  - o "Deposit Takers" include all possible entities (including individuals) receiving or soliciting deposits, except specific entities such as those incorporated by legislation.
  - o "Deposit" is defined in such a manner that deposit takers are restricted from camouflaging public deposits as receipts, and at the same time not to curb or hinder acceptance of money by an establishment in the ordinary course of its business.
- It **adopts best practices from State laws** and entrusts the primary responsibility of implementing the provisions of the legislation to the State Governments.
- It also provides for designation of Courts to oversee repayment of depositors & try offences under the Act.

There is also a listing of Regulated Deposit Schemes in the Bill, with a clause enabling the Central Government to expand or prune the list

The Bill makes amendments to the Chit Funds Act, 1982, to facilitate orderly growth of the Chit Funds sector and remove bottlenecks being faced by the Chit Funds industry, thereby enabling greater financial access of people to other financial products.

Chit fund

- A chit fund is a type of saving scheme where a specified number of subscribers contribute payments in instalment over a defined period. Each subscriber is entitled to a prize amount determined by lot, auction or tender depending on the nature of the chit fund. Typically the prize amount is the entire pool of contribution minus a discount which is redistributed to subscribers as a dividend.
- **Importance:** With a reported 10,000 chit funds in the country handling over Rs 30,000 crore annually, chit fund proponents maintain that these funds are an important financial tool.
- However, these can be misused by its promoters and there are many several instances of people running such Ponzi schemes and then absconding with investor's money.
- **Regulation:** being part of the Concurrent List of the Indian Constitution; both the centre and state can frame legislation regarding chit funds.
- RBI is the regulator for banks and other NBFCs but does not regulate the chit fund business. However, RBI can provide guidance to state governments on regulatory aspects like creating rules or exempting certain chit funds.
- SEBI regulates collective investment schemes. However, the SEBI Act specifically excludes chit funds.

Details of Bill

- Use of the words **"Fraternity Fund" for chit business** to signify its inherent nature and distinguish its working from "Prize Chits" which are banned under a separate legislation;
- It allows **two minimum required subscribers** (for drawing chits) to join through video conferencing duly recorded by the foreman, as physical presence of the subscribers towards the final stages of a chit may not be forthcoming easily. The foreman shall have the minutes of the proceedings signed by such subscribers within a period of two days following the proceedings

- It **increases the ceiling of foreman's commission** from a maximum of 5% to 7%, as the rate has remained static since the commencement of the Act while overheads and other costs have increased manifold.
- It **allows the foreman a right** to lien for the dues from subscribers, so that set-off is allowed by the Chit company for subscribers who have already drawn funds, so as to discourage default by them; and

It **removes the ceiling** of one hundred rupees set in 1982, which has lost its relevance. The State Governments are proposed to be allowed to prescribe the ceiling and to increase it from time to time.

MSME SECTOR

Why in news?
- Recently, cabinet has approved proposal for the amendment in Micro, Small and Medium Enterprises Development (MSMED) Act, 2006.
- Also **CriSidEx**, India's first sentiment index, has been launched for micro and small enterprises (MSEs).

Recent amendment to MSMED Act 2006
- Change in the basis of classifying Micro, Small and Medium **enterprises from 'investment in plant & machinery/equipment' to 'annual turnover'.** Accordingly Section 7 of the Act will be amended
  - o A micro enterprise: annual turnover does not exceed five crore rupees
  - o A small enterprise: annual turnover is more than five crore rupees but does not exceed Rs 75 crore;
  - o A medium enterprise: annual turnover is more than 75 crore rupees but does not exceed Rs 250 crore.
- This will encourage ease of doing business, make the norms of classification growth oriented and align them to the new tax regime revolving around Goods & Services Tax.
- Additionally, the Central Government may, by notification, vary turnover limits, which shall not exceed thrice the limits specified in Section 7 of the MSMED Act.

Issues faced by the MSME sector
Despite a plethora of government schemes, the MSME sector faces problems like:
- **Access to capital** – About 40% of the small enterprises depends on the informal sources of credit.
- **Lack of improved technology** is making them less productive and less competitive as compared to imported products and services.
- **Deficiencies in basic infrastructural facilities** like water, power supply, road/rail and telephone connectivity, etc.
- **Getting multiple statutory clearances** related to power, environment, labour becomes difficult.
- **Other challenges** include - Availability of raw material & skilled labour etc.

Key facts about CriSidEx
- CriSidEx is a composite index, developed jointly by CRISIL & SIDBI, based on a diffusion index of 8 parameters and measures MSE business sentiment on a scale of 0 (extremely negative) to 200 (extremely positive).
- Since the data on MSEs used to come with a significant lag, a comprehensive and concise indicator of ground-level sentiment becomes a crucial tool for policy makers, lenders, trade bodies, economists, rating agencies and the MSEs themselves.
- CriSidEx readings will flag potential headwinds and changes in production cycles which will help improve market efficiencies.
- By capturing the sentiment of exporters and importers, it will also offer actionable indicators on foreign trade.

Way forward
- There is limited awareness about the different support programmes amongst the target beneficiaries, there is a need to develop a better communication strategy and use of new age media tools like social media etc.
- There is a special need for the involvement of stakeholders at the design stage of the scheme to make the schemes demand driven
- Decision making layers should be reduced and should allow flexibility on operational issues.

Government Initiatives

- **Udyami Mitra Portal –** It has been launched by SIDBI to improve accessibility of credit and handholding services to MSMEs.
- **Digital MSME Scheme –** It involves usage of Cloud Computing where MSMEs use the internet to access common as well as tailor-made IT infrastructure (including software for managing their business processes) rather than installing in-house IT infrastructure
- **MSME Delayed Payment Portal – MSME Samadhaan –** will empower Micro and Small entrepreneurs across the country to directly register their cases relating to delayed payments by Central Ministries/Departments/CPSEs/State Governments
- **MSME Sambandh -** The Portal will help in monitoring the implementation of the Public Procurement from MSEs by Central Public Sector Enterprises
- **Prime Minister Employment Generation Programme –** It is a credit linked subsidy program under Ministry of MSME.
- **Revamped Scheme of Fund for Regeneration Of Traditional Industries (SFURTI)** – organizes traditional industries and artisans into clusters and make them competitive by enhancing their marketability & equipping them with improved skills.
- **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)** - creates new jobs & reduce unemployment, promotes entrepreneurship culture, facilitates innovative business solution etc.
- **National Manufacturing Competitiveness Programme (NMCP)** - to develop global competitiveness among Indian MSMEs
- **Micro & Small Enterprises Cluster Development Programme (MSE-CDP) -** adopts cluster development approach for enhancing the productivity and competitiveness as well as capacity building of MSEs

Government Abandons Revenue Deficit Targeting

Why in news?
Budget 2018 has proposed to stop setting targets on revenue deficit reduction from next year by bringing adequate amendments into the FRBM Act.

Rationale behind the decision
- Country like India with numerous development deficits, an undue focus on revenue deficits may be detrimental to equitable development.

Human capital development initiatives which include schools, hospitals and also maintenance of assets, which are in nature of revenue expenditure, are as important to improve productivity as buildings and roads. Thus, there is no qualitative difference in government's capital and revenue expenditure. The distinction is more artificial than real.

towards building sustainable infrastructure rather than prioritising doing away with targeting revenue deficit.
- The philosophy behind the FRBM Act was to force government from switching from consumption to capital expenditure as the latter has a higher multiplier effect on GDP growth. Doing away with revenue deficit targeting will have serious implication not only on GDP growth but also on achieving public debt target.
- Borrowing for expenditures that are to be incurred year after year which is actually revenue deficit is neither desirable nor sustainable as this would create debt trap for the government.
- N.K. Singh Committee had also recommended reduction of revenue deficit.

- **Revenue Deficit** refers to the excess of revenue expenditure over revenue receipts or the extent of borrowings used for revenue expenditure. It signifies if the day to day expenditure of the government can be met by its day to day income. **FRBM Act 2003** called for bringing this deficit to **absolute zero by 2008-09**
- **Effective revenue deficit** is revenue deficit minus grants to states for creation of capital assets.
- **Fiscal Deficit** is the difference between the total expenditure and revenue receipts plus non-debt capital receipts. It indicates the amount the Government has to borrow to meet its annual targets.
- **Primary Deficit** is measured by fiscal deficit less interest payments. It shows what the Fiscal Deficit would've been for this particular year if no interests were to be paid. It ignores the loans taken by the previous Governments in previous financial years.
- **Capital expenditure:** Expenditures which result in creation of physical or financial assets or reduction in financial liabilities.
- **Revenue expenditure:** Expenditure incurred for purposes other than the creation of physical or financial assets of the central government. It relates to expenses incurred for the normal functioning of the government departments.

Concerns
- This decision may lead government's expenditure towards more consumption spending away from more productive capital expenditure. India is significantly lacking in physical infrastructure, hence adequate resources should be allocated

Way forward
- Social infrastructure like health and education should be financed through increase in tax-GDP ratio, while fiscal deficit can be used to finance physical capital formation while keeping revenue deficit in balance.

However, Government has accepted the key recommendations of the N.K. Singh committee on fiscal discipline to bring down debt-to-GDP ratio to 40% by 2024-25, and to use fiscal deficit target as the key operational parameter.

Recommendations of the NK Singh (FRBM Review) Committee

- Public debt to GDP ratio should be considered as a medium-term anchor for fiscal policy in India. The combined debt-to-GDP ratio of the centre and states should be brought down to 60% by 2023 (comprising of 40% for the Centre & 20% for states) as against the existing 49.4%, and 21% respectively.
- It advocated fiscal deficit as the operating target to bring down public debt. For fiscal consolidation, the centre should reduce its fiscal deficit from the current 3.5% (2017) to 2.5% by 2023. The Committee set 0.5% as escape clause for fiscal deficit target to adjust with cyclical fluctuations
- The central government should reduce its revenue deficit steadily by 0.25 percentage (of GDP) points each year, to reach 0.8% by 2023, from a projected value of 2.3% in 2017.

It suggested the setting up of a 'fiscal council', an independent body which will be tasked with monitoring the government's fiscal announcements for any given year. It will provide its own forecasts and analysis for the same as well as advise the finance ministry on triggering the escape clauses.

STRATEGIC OIL RESERVES

Why in News?
- Recently, Ministry of Petroleum and Natural Gas invited Saudi Arabia and Oman to participate in the Indian Strategic Petroleum Reserve Programme.
- Abu Dhabi National Oil Company (ADNOC) has signed an agreement to store about 6 million barrels of crude oil at India's maiden strategic oil reserve.

Background
- India consumes about 3.8 million barrels of oil and oil products a day and has to import about 80% of that.
- The **International Energy Agency (IEA)** predicts that by

2020, India will be the largest oil importer, increasing its vulnerability to threats of physical supply disruptions and to large price fluctuations.

- Moreover, global standard for strategic oil reserves, as set by IEA and **Integrated Energy Policy 2006** of India recommended that country should maintain a reserve equivalent to 90 days of oil imports for strategic-cum- buffer stock purposes.

About Strategic Oil Reserve
- It is a storage of crude oil which would act as a cushion during any external supply disruptions or supply- demand mismatch shock.
- The crude oil storages are constructed in **underground rock caverns** and are located on the East and West coast of India. They are considered to be more environment friendly and incur less evaporation loss than ground level storage
- Crude oil from these caverns can be supplied to the Indian Refineries either through pipelines or through a combination of pipelines and ships.
- Construction of storage facilities are maintained by **Indian Strategic Petroleum Reserves Limited** (a special purpose vehicle of the Oil Industry

Development Board under Ministry of Petroleum and Natural Gas.
- Presently, strategic reserves are situated at Visakhapatnam (Andhra Pradesh), Mangalore (Karnataka), and Padur (Kerala).
- Moreover, project of three additional reserves is in pipeline -at Chandikhol (Orrisa), Bikaner (Rajasthan) and Rajkot (Gujrat).

The **IEA** (International Energy Agency)
- Founded in 1974 to help countries collectively respond to oil supply disruptions.
- It is an autonomous body **within the OECD framework**. Membership is made up of 30 member countries (**India is not a member**).
- It publishes the **World Energy Outlook (WEO).**

Conclusion
- Government should focus on making such storage facilities now as Gulf Countries are looking towards tapping the Indian oil demand due to low import demand form America owing to availability of shale gas at cheaper rate.
- Moreover, Oil Corporation of Gulf Countries have shown interest in storage-refining in India since it can reduce their transport costs into Southeast Asia.
- In future, Government may readily utilise this storage facility in the international markets as it can release inventory and book profits when prices climb, and recharge reservoirs when prices fall again.

However, government should provide viable mechanism for the private players to exploit this segment, to complete reserves at fast pace.

Centralized Communication Scheme 2018

Why in news?

The income tax department has notified the Centralized Communication Scheme 2018 aimed at eliminating the physical interface between taxpayers and the department.

More on news

- o The IT department issues notices to persons under Section 133C only to seek information. However the task of visiting the tax office to comply with the notices causes considerable stress and anxiety to the recipient of such notices.
- o It will facilitate electronic issuance of notices to taxpayers, requiring them to furnish information or documents for the purpose of verification in a prescribed format.
- o No person shall be required to appear personally or through authorized representative before the designated authority in connection with any proceedings.
- o It will also set up call centres to address taxpayer queries and a grievance redressal system.

Draft National Mineral Policy 2018

Why in news

Recently, draft National Mineral Policy (NMP) 2018, was released which seeks to replace NMP (2008).

Background

- **Supreme Court** on August 2, 2017 directed the Government to revisit the NMP (2008) and announce a new Mineral Policy.
- **Management of Mineral resources** is the responsibility of both Central under entry 54 of Union List and State under Entry 23 of the State lIst in 7th Schedule of Constitution
- According to NITI Aayog, the ratio of minerals produced to minerals imported in India was 1:10.
  - ✓ Around 90% of **India's Obvious Geological Potential (OGP)** area remains unexplored.
  - ✓ Exploration expenditure per square km in India is $9, while it's $5,580 in Australia and $5,310 in Canada.

Highlights of the policy

- ☐ **Transparent Mechanism**: There shall be transparency while reserving areas for state agencies unless security considerations or specific public interests are involved.
- ☐ **Facilitator role** of the government in survey and regulation of exploration, while the private sector would be encouraged to take up exploration activities through an adequate financial package or through right of first refusal at the time of auction.
- ☐ **Grant Industry Status To Mining Sector** : to facilitate easy institutional financing of mine development.
- ☐ To attract FDI in sector, it seeks to provide **assurances on export** of minerals.

- ☐ **Ease of doing Business**:

Clearances will be streamlined with simpler, accountable, and time-bound procedures.

- **Right of First Refusal** will be offered to mineral exploration companies when mines explored by them are auctioned.
- In the offshore areas, country's exclusive economic zone should be explored and exploited.
- **Special attention** will be given towards exploration of **energy critical minerals**, fertilizer minerals, precious metals & stones and strategic minerals which are otherwise difficult to access
- **Encouraging beach sand mining** for improving economic growth in accordance with the conformity of different laws and regulation such as Atomic Energy Act, 1962 etc.
- **Dedicated Mineral Corridors** shall be planned to facilitate transport of minerals for mining areas in hinterland.
- **Establish Mining Tenement System (MTS)** which would primarily involve automating the entire concession life-cycle using State-of-the-art IT systems.
- **Public Investment** in areas where private sector investments are not coming in due to high uncertainties.
- **Preferential right** to any mine, which has **small deposits** and is situated in one of the **scheduled areas**, should be given to any scheduled tribe (STs)
- **Cluster approach** will be adopted where small deposits are not susceptible to viable mining, by granting the deposits as a single lease within a specified geographical area.
- **National web portal** to monitor and review the implementation of schemes under DMF for giving effect to PMKKKY.
- **Human Resource Development** through basic and specialized training to ensure adequate manpower for mining development
- **Constitute an inter-ministerial body** to institutionalise a mechanism for ensuring

mining with adequate concern for environment and socio-economic issues in mining areas and to advise the Government on rate of royalty, dead rent etc.

- Evolving a mechanism to **improve living standard of the affected population** and ensuring them a sustainable income. Also, benchmarks for sustainable mining should be established

Issues with draft policy

- **Lack of clarity** related to fiscal incentives that would be made available to a potential investor
- Mineral policy has no provisions of transfers of mineral concessions as is the standard practice in other mineral rich nations
- **Silent on Intergenerational Equity**: A doctrine, also referred by Economic Survey 2016-17, which says that humans hold resources in common both with other members of the present generation and with other generations, past and future

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National Minerals Policy 2008
- It seeks to make the process of allocation more transparent by making regulatory mechanisms technologically advanced and in consonance with the investment flow.
- Strengthening the role of Geological Survey of India, Indian Bureau of Mines and State Directorates of Mining and Geology.
- Developing and enforcing a **Sustainable Development Framework** so that the rights of indigenous population are not hampered and also ensuring a sustainable ecological balance.
- Discouraging unsustainable mining and promoting zero-wastage mining.
- Developing cluster based approach of mining small deposits.

The Mines and Minerals (Development & Regulation) Amendment Act, 2015.

- It mandated the setting up of **District Mineral Foundations (DMFs)** in all districts in the country affected by mining related operations and to protect the interests of tribal communities who have borne the costs of mining. The miners have to contribute a fraction to DMF of total royalty payable to people.
- Establish **National Mineral Exploration Trust (NMET)**: It is a non-profit body run by the Central government with the primary objective of promoting regional and detailed mineral exploration in the country

Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKY)

- To provide for the welfare of areas and people affected by mining related operations, using the funds generated by District Mineral Foundations (DMFs).
- To implement various developmental and welfare projects/programs in mining affected areas that complement 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
- To ensure long-term sustainable livelihoods for the affected people in mining areas.
- All areas directly affected by mining related operations as well as those areas indirectly affected by such operations will be covered under PMKKKY

Minimum Alternate Tax

Why in news?

The government has drawn up plans to abolish minimum alternate tax (MAT) on certain category of foreign companies. This amendment will apply in relation to the assessment year 2001-02 as well as subsequent assessment years.

WHAT'S THE MAT?

1. The minimum alternate tax, or MAT, was introduced in assessment year 1997-98 to get all companies enjoying exemptions into the tax net

WHO PAYS MAT

2. All companies that report profit on their books, including foreign ones

PREVIOUS CHANGES

3. The finance Act, 2016, exempted some foreign companies, without a permanent establishment in the country. It was effective retrospectively from 2001

NEW CHANGES

4. The Finance Bill, 2018 proposes removing more foreign companies from the MAT's ambit. India will have to refund taxes

WHO WILL GAIN?

| Companies engaged in shipping | Prospecting, extraction or production of mineral oil | Civil construction | Airlines |

Under the presumptive taxation regime, these companies are not required to maintain books of accounts which created uncertainty over whether such companies will attract the MAT, leading to litigations between companies and tax authorities.

Commercial Mining In Coal

Why in news?
- Recently, the Government has approved opening up **commercial mining in coal for Indian and foreign companies in the private sector.**

Background
- Since nationalization of the sector in 1970s, Coal India Ltd (CIL) and its associates had **monopoly** over mining and selling of coal. It accounts for over 80% of the country's coal supply.
- Remaining comes from another public sector firm, Singareni Collieries Company, and some captive coal mines allotted to private players for specific end-uses such as in the steel and power industries.
- The Supreme Court had in 2014 cancelled 204

coal blocks allocated to various state and private companies.

- Following this, Coal Mines (Special Provisions) Act, 2015 was enacted to replace administrative allocation of coal blocks with auction and allotment. This also opened up commercial coal mining in theory to private entities
- In 2016, coal blocks were awarded to state-controlled mining corporations for commercial mining.
- Now, government has allowed all private entities to enter into commercial mining without end use or price restrictions.
- Also, the bid parameter will be the price offer in rupees per tonne, which will be paid to the State government on the actual production of coal.

Expected Benefits of allowing Commercial Mining
- **Increased production and energy security**: It will also help the country come closer to its vision of producing 1.5 billion tonne of coal annually by 2022.
- **Reduced imports**: It has potential to save on import bill by Rs 30,000 crore as

currently about 22% of domestic demand is being met through imports despite India being the 3rd largest coal producing country in the world. Cheap domestic supply will also keep import prices in check.

- **Benefit to power sector**: Coal accounts for **around 70% of the country's power generation**. Thus, it would help stressed power plants to attempt a turnaround through **better fuel management**.
- **Improved efficiency**: as coal sector would shift from **monopoly to competition.** This would attract **investments** from private and foreign players and bring **best possible technology** in the sector.
- **Development of coal bearing states**: especially in the eastern part of the country, as the entire revenue from these auctions will accrue to them. Also, revenure may increase as the coal blocks will be allocated to the highest bidder.
- **Industry consolidation**: as it may see rise of large vertically-integrated energy companies with interests in coal mining, power generation, transmission and distribution to retail supply.
- **Benefits to people**: as it will create direct and indirect employment in coal bearing areas as well as increase accessibility to low cost power, steel etc.
- **Attract foreign investment**: as it provides a great opportunity to overseas companies in countries where coal mining is either on the wane or has been stopped completely.

Concerns
- **Regulatory concerns**: Significant proportion of India's coal resources lies under lands that require forest and environment clearances, thus, government needs to ensure that private coal miners adhere to these norms.
- **Poor track record of private sector**

captive miners: The production levels have not been very encouraging as it accounts for only 6- 10% of the overall domestic production.

☐ **Risk of domination by a handful of companies:** as coal sector is a capital intensive investment and according to industry estimates blocks of 40-50 million tonnes will be viable, only large companies may be able to invest.

☐ **Against global trends:** There is going to be continuous pressure internationally and from civil society to cut back on coal usage. Also, Coal India Ltd released the draft Coal Vision 2030 that suggested that the country does not need new mines.

☐ **Focus on clean energy**: Every country including India is focusing on renewable energy and if any breakthrough happens in cleaner energy technology, thermal will be left behind.

☐ **Other issues**: local protests against mining operations, issues of transport linkages and logistics, challenges in land acquisition, delays in approval etc.

Way Forward

☐ **Capacity building of state governments**: The state governments have to be proactive by improving ease of doing business and easing procedures for regulatory clearances**.**

☐ **Shifting aim of coal auction:** from revenue maximisation to improving the efficiency of India's energy economy. Thus, private and overseas companies with superior technology, proven mining experience and core competence should be chosen.

☐ **Easing clearance pressures:** Model of ultra-mega power projects where a shell company is created to acquire land and get environment clearance before handing over the project to private sector can be followed.

☐ **Better regulation:** by laying out standards for operational efficiency and miner's safety, guidelines for testing,

sampling and certifying the quality of coal. Thus, an independent coal regulator may be established as envisaged in lapsed **Coal Regulatory Authority Bill, 2013.**

Problems with present system

- *CIL is unable to keep pace with demand from new power plants and has consistently missed government targets. Thus, there has been a significant surge in imports in recent years despite having rich coal-bearing belts and increased output.*

- *The companies which produce electricity for their own use have to purchase costlier imports because of not getting adequate supplies as contracted with CIL*

The monopoly has also affected the quality of coal produced in the country. Indian coal has an average ash content of about 45% far higher than the 25-30% that ensures efficient power generation.

Coal Reserves in India

- *The reserves are located mainly in states of Jharkhand, Odisha, Chhattisgarh, West Bengal, Madya Pradesh, Telangana and Maharashtra.*

- *Indian coal reserves are primarily of Lignite and Bituminous types (other two types are Peat and Anthracite.*

- *Problems with Indian coals are-*
  - *Lower calorific value*
  - *Higher ash content*

Recent efforts to bring Transparency in Coal Sector

- *Transparent coal allocation policy for power sector,*

SHAKTI, issued in May 2017

- *Third-party sampling procedure was put in place to address concerns of grade slippage and other quality issues for coal consumers*

- *Inter-company safety audit of all 366 operative mines of Coal India Limited has been completed*

- *In November 2017, "**Grahak Sadak Koyla Vitaran App**" was launched for the benefit of customers lifting coal via the road mode. As a step towards transparency, the app provides date-wise, truck-wise quantity of coal delivered against the sale orders.*

URBAN INFRASTRUCTURE FINANCE

Why in news?
In a written reply in Lok Sabha, the Minister of Housing and Urban Affairs said that the investments required in urban areas for a 20-year period between 2012-13 and 2031-32 is estimated to be Rs 39 lakh crore based on the report of the **high-powered expert committee.**

Status of urban infrastructure spending

- India's annual per capita spending on cities is $50 which is less than that of China ($362), South Africa ($508) and U.K. ($1772).
- The projected figure of Rs.39 lakh crore goes up to Rs.59 lakh crore, if operation and maintenance expenses are included.
- The total combined outlay of the Smart Cities Mission and AMRUT is only Rs.1 lakh crore, or about 2% of the funds required by 2031.

Issues with urban infrastructure finance

• Dependence for funds on states and centre: Devolution of funds is not predictable and timely, especially from the state governments. Further, these devolved funds are largely tied in nature, to either specific sectors or schemes. This constraints the ability of local governments to spend on local public good as per their own priorities.

• Inadequate revenue generation: They generate revenue below their potential and spend even less on services and infrastructure. Indian cities revenue is less than 1% of GDP.

o ULBs' revenue share often doesn't rise with economic growth of an area due to factors like undervaluation (Land), limits on taxation power (Professional tax) etc.

• Weak credit worthiness & underdeveloped municipal bond market due to outdated and mismanaged accounting practices leads to lack of interest from private investors, for example 39 out of 94 surveyed cities received credit ratings below the investment grade(BBB-).

• Absence of financial investment: plans due to lack of expertise and resources.

• Lack of stakeholder consultation: while formulating and implementing projects leads to a disconnect between ULBs and citizens

• Weak Asset Management leads to loss of revenue for the ULBs, even though they own substantial assets.

• Absence of data availability and mapping leads to litigations and inefficient policy making and implementation.

Way forward

• The costs of providing water and sewer lines, as well as public roads, must be recovered from developers through a combination of land tax, development charges and betterment fees.

• Rational user charges should be levied for the continued provision of public services like water supply, with a fairly priced monthly lifeline charge for the poor and a graded increase in charges (based on usage) to ensure the rich don't end up getting subsidised.

• There is a need for use of financial instruments like municipal bonds to raise money to direct development along certain corridors or geographies, so that the city government can control growth instead of leaving it to developers.

• India needs to develop its own National Urban Policy (NUP) as an instrument for applying a coherent set of interventions in relation to the future growth of cities, in partnership with all stakeholders. Globally, around one-third of countries have a NUP in place.

Amendments To Nabard Act, 1981

Why in news?

Recently, the Parliament passed amendments to the National Bank for Agriculture and Rural Development (NABARD) Act, 1981 to boost the rural and agricultural sector, especially rural entrepreneurship.

Why amendment needed?

- **Expansion in activities of NABARD:** It needed to be provided with additional equity from time to time to enable it to meet its objectives and existing commitments relating to the long-term irrigation fund and enhanced refinance support to cooperative banks.
- **Remove conflict in RBI's Role:** RBI holds 0.4% of the paid-up capital of NABARD. The remaining is held by the Central government. This causes conflict in the RBI's role as banking regulator and shareholder in NABARD.
  - o However, experts feel that RBI would lose an

important supervisory and development institution in rural credit activity.

- **Increased ambit of refinance activities of NABARD:** The government proposed to include enterprises related to employment potential in rural areas, medium enterprises, and handlooms.

Details of amendments in NABARD (Amendment) Bill, 2017

- Empowers the Central government to **increase the authorised capital** of NABARD from ₹5,000 crore to
- ₹30,000 crore as the current authorised capital of NABARD is fully paid-up. This can be increased further in consultation with RBI.
- **Transfers the RBI's balance equity** of ₹20,000 crore in NABARD to the Central government.

- **For Micro, small and medium enterprises (MSME)**: The Bill replaces the terms 'small-scale industry' and

'industry in the tiny and decentralised sector' with the terms 'micro enterprise', 'small enterprise' and 'medium enterprise' as defined in the MSME Development Act, 2006.

- o Under the 1981 Act, NABARD was responsible for providing credit and other facilities to industries having an investment of upto Rs 20 lakh in machinery and plant. The Bill extends this to apply to enterprises with investment upto Rs 10 crore in the manufacturing sector and Rs five crore in the services sector.

Consistency with the Companies Act, 2013: The Bill substitutes references to provisions of the Companies Act, 1956 under the NABARD Act, 1981, with references to the Companies Act, 2013. These include provisions that deal with: (i) definition of a government company, and (ii) qualifications of auditors

NABARD was created on July 1982 on the recommendations of Committee to Review the Arrangements for Institutional Credit for Agriculture and

Rural Development under the Chairmanship of Shri B. Sivaraman.

It is an apex development bank of country and is engaged in agricultural credit and other economic activities in rural areas.

Functions:

- provides refinancing facilities to banks
- **promotes rural industries, small scale and cottage industries**
- **provides funds to State governments** for undertaking developmental and promotional activities in rural areas
- **financing R&D** of agricultural and rural industries
- **finance for promoting non-farm activities** and employment in non-farm sectors

inspection work of Co-operative banks and Regional rural banks.

National Urban Housing Fund (NUHF)

Why in news?

The union cabinet has approved the creation of NUHF of Rs 60,000 crore to finance its flagship program **Pradhan Mantri Awas Yojana**-Housing for All **(Urban)** by 2022.

Details

- The fund will be placed under **Building Material and Technology Promotion Counci**l (an autonomous society under Ministry of Housing and Urban affairs).
- NUHF will facilitate raising the funds in next four years through **non-budgetary sources**.
- This year's budget says that **3.7 million houses** are to be built in urban areas in **2018-19**

About Pradhan Mantri Awas Yojana-Urban:

- Launched in June **2015. 1.2 Crore Houses** to be built by 2022.
- Aims at providing affordable pucca houses with **water facility, sanitation and electricity supply** round-the-clock.
- Covers Extremely Weaker Section (EWS-Annual income < Rs 3 Lakh), Low-Income Group (LIG-Annual income < Rs 6 Lakh) and Mid-Income Group (MIG).
- Central assistance under different verticals:
  1. **In-Situ Slum Redevelopment (ISSR)** - Private developers will collaborate in transforming slum areas by building homes. (1 Lakh assistance to EWS)
  2. **Credit Linked Subsidy Scheme (CLSS)** - An interest subsidy of 3% (For MIG of loans upto 12 lakh) to 6.5% (For EWS and LIG for loans upto 6 Lakh) for new construction/extension.
  3. **Affordable Housing in Partnership (AHP)** - with States/UTs for EWS (1.5 Lakh assistance)
  4. **Beneficiary Linked Construction (BLC)**- Rs 1.5 Lakh direct financial assistance to EWS for individual house construction/expansion.

- Here Credit linked subsidy scheme (CLSS) is a Central Sector Scheme, while the other **three are Centrally Sponsored Schemes (CSS).**
- Houses are allotted in the name of female head or jointly with males.

Rationale behind the scheme: India is having shortage of nearly 2 Crore Housing units needed by rural and urban poor at price points of Rs 5-15 Lakh.

How will it help: It will provide affordable housing to the urban poor, falling interest rate will improve loan growth for banks and Housing Finance Companies, incentivise real estate sector and allied businesses such as cement and steel.

Farmer Producer Companies

Why in News?
Government exempted the profits of Farmer Producer Companies (FPC) from tax for a period of five years from the next financial year.

Details
- While the I-T Act exempts cooperatives from paying under the section 35CCC, FPCs are taxed on par with private and public-limited companies.
- Majority of these companies are paying now 20 per cent income tax and 30 per cent dividend tax.
- After the said changes, FPCs registered under the Companies Act, having an annual turnover up to ₹ 100 crore, need not pay tax on profits derived from farm-related activities.

Need for FPCs
Structural Challenges- like poor market infrastructure, credit unavailability from formal channels, access and knowledge about market, information asymmetries, interlocking of factor and product market, lower bargaining power and holding capacity, higher input costs and output yield due to fragmented buying and selling and competition from other forms of private organisations in the market.

- **Small Farmer Constraints-** India accounts for a majority of farmers who operate on less than 2 hectares land per household. Majority of them still operate for subsistence based farming. Together the small & marginal farm holdings in the year 2010-11 accounted for 85% of total farm holdings in the country.
- **Failure of Cooperatives**- Due to heavy political interference, bureaucratic control and capturing of management by poor leadership and powerful elite, the cooperatives have not been as effective as expected. They also had an issue of not being business oriented.

Challenges & further Scope for FPCs
- **Lack of Patient Capital/Long term Capital**- as these entities are not seen to be as viable business enterprises. Thus, Patient capital and skilled resources with a firm business plan need to be infused in these enterprises.
- Besides **lack of entrepreneurial capabilities,** the small farmers show a lack of understanding of business plans and the growth trajectory for the FPCs towards enterprise models. Thus, different stakeholders particularly Banks and NGOs should create awareness among farmers.
- There is a **lack of administrative capacity** resulting in poor management of books. Government may take steps to improve the administrative structure to improve overall accountability and transparency.
- **Role of NGO's-** While NGO's are playing a crucial role in development of FPCs as promoting institutions, the political Economy of aid and donations make them work in a certain manner and ultimately making these institutions as fragile units which remain small within a region. Thus, more approaches of social enterprises should be infused to further develop these companies

What are FPCs?
- It is a hybrid between cooperative societies and private limited companies which provides for sharing of profits/benefits among the members.
- The important features include:
  - It is formed by a group of producers for either farm or non-farm activities;
  - It is a registered body and a legal entity (under Companies Act, 1956);
  - Producers are shareholders in the organization;
  - It deals with business activities related to the primary produce/product;
  - A part of the profit is shared amongst the producers and rest of the surplus is added to its owned funds for business expansion.

- It involves collectivization of Producers especially small and marginal farmers to help them collectively address many challenges of agriculture.
- NABARD initiated the Producer Organisation Development Fund (PODF) and Small Farmers Agribusiness Consortium (SFAC) has set up nearly 250 FPOs since 2011.
- To strengthen their capital base, SFAC has launched a new Central Sector Scheme "**Equity Grant and Credit Guarantee Fund Scheme for Farmers Producer Companies**".

Draft Pesticides Management Bill 2017

Why in News?

☐ Recently, Ministry of Agriculture and Farmer Welfare proposed the Pesticide Management Bill 2017 with an aim to regulate the manufacture, imports, storage, transportation, inspection, testing and distribution of pesticides.

Highlights of the Bill

☐ **Repeal archaic law:** The bilk seeks to replace the **Insecticides Act of 1968** and is proposed to be a step towards promoting safe use of pesticides.

☐ **Setting up of Central Pesticides Board:** to advise centre and state government on prevention of risks due to pesticide, monitoring performance of registered pesticides, procedures for manufacturing pesticides, regulation and guidelines for advertising them.

☐ **Setting up of a Registration Committee:** for speedy registration of pesticides, allowing or restricting use of pesticides, notifying pesticides etc.

☐ **Classification:** It defines the criteria by which a pesticide is to be classified as misbranded, sub-standard, or spurious.

☐ **Penalties:** It favors an increase in penalties on violators and gives more power to state governments to take action against them.

☐ **Compensation:** It provides for compensation to the affected farmers or users under the provisions of the Consumer Protection law.

☐ **Tightening of the norms:** Further, it has tightened the guidelines for registration and licensing of new molecules. Moreover, tolerance limits for pesticides are to be specified according to the provisions of the Food Safety and Standards Act, 2006.

☐ **Reporting:** State governments have to report all cases of poisoning to the centre on a quarterly basis and states can also ban chemical pesticides for up to six months against the present ban for up to two months.

Related Information

- *Currently India is the largest producer of pesticides in Asia and ranks 12th in world for application of pesticides.*
- *In India nearly 150 pesticides are registered*
- *Around 40 per cent of the total cultivated area is treated with the pesticides (State of India Agriculture 2015-2016).*
- *Andhra Pradesh is the leading consumer of pesticide followed by Maharashtra and Punjab.*

Other Initiatives for Pesticide

- *Monitoring of Pesticide Residues at National Level: a central sector scheme under Ministry of Agriculture, for monitoring and analysis of pesticide residues in agricultural commodities in different agro-ecological regions of the country.*
- *Strengthening and Modernization of Pest Management Approach in India: to promote Integrated Pest Management (IPM).*
- *Grow Safe Food Campaign has been launched to create awareness among the stakeholders.*
- *NITI Aayog's Doubling the Farmer Income: proposed the organic farming so as to minimise the consumption of pesticides.*
- *India is signatory to United Nations Environment Programme (UNEP) led Stockholm Convention for persistent organic pollutants and Rotterdam convention for export import of pesticides.*

Analysis of Bill

☐ **Lax definition:** of pesticides and various other terminology, such as 'user' is not defined under the bill, thereby, responsibility for improper use may fall on farmers.

☐ **Lack of accountability:** The bill is silent on time frame of data protection and approval of spurious pesticides by inspector.

☐ **Penal Provision:** The bill does not address the issues of applying penal provisions on companies marketing pesticides.

Way Forward

☐ **National Oversight Committee-**namely **Pesticide Development and Regulation Authority** to make oversight more effective is need of the hour.

☐ **Transparency:** All samples collected and test results by the Registration Committee should be displayed on the internet for a predetermined duration and **Mandatory e-documentation** (as per the IT Act, 2000) for agriculture departments will expedite the process and increase transparency.

☐ **Delegation of power:** Currently, only a magistrate can order suspension of pesticide sales over an evident violation. These powers need to be delegated to a pesticide inspector.

☐ **Improve competition** by removing the entry barriers and introducing the new-generation pesticides.

☐ **Enable a robust retail network**-managed by qualified dealers, so that they are able to provide extension service apart from just selling pesticides to the farmers.

☐ **R&D**: Incentivising Research and Development (R&D) activities by the pesticide industry will promote 'Make in India' and reduce dependency on imported formulations.

☐ **Post-use management**: Empty container management is emerging as a challenge. Its safe disposal and incineration needs a system to be put in place and farmers need to be educated about it as part of 'Swachha Bharat'.

*Issues with **Insecticides Act 1968***

• *Long registration process- The registration of new molecule takes about 3-4 years.*

Which further hampers its input value to agriculture.

• *Lack of data protection – causing delay in farmers getting access to new and green chemistry pesticides in comparison to developed world.*

• *Low compensation amount in case of eventualities.*

• *Lack of stringent penal provision and excessive centralisation mechanism for pesticides management.*

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OPERATION GREENS

Why in news?

Recently, Ministry of Food Processing Industries has initiated work on Operation Greens which was announced in Budget 2018-19.

What is Operation Greens?

- Operation Greens is a **500 crore project** on the lines of **Operation Flood** for enhancing production & reducing price volatility of fruits & vegetables.
- Government has decided to start focusing on three basic vegetables namely **tomatoes, onions and potatoes (TOP)** initially. They form almost half of vegetable production in the country.
- It will further promote Farmer Producers Organisations (FPOs), agri-logistics, processing facilities and professional management to achieve its objectives
- It will help in doubling farmers' incomes by 2022 by providing sustainable prices as these

commodities generally face **price collapse** during the periods of high production due to lack of cold storage facilities and **poor linkages** of farmers with processing and organised retailing.

- Price stability would also ensure availability of these basic vegetables at **affordable prices to consumers**

Suggestions to curb Price Volatility for Perishables

India is the **second largest producer of vegetables** in the world, with production of about 180 MMT, next only to China. The government has mainly relied on banning exports, de-stocking and conducting income-tax raids on traders to check price volatility till now. Some other measures that can be taken are:

- Incentivising farmers to **grow diverse crops** would help minimize the impact of price volatility.
- **Cluster based Cultivation** of horticulture crops to bring advantages of scales of operations which can spur establishment of entire chain from production to marketing.

- **Incentivising Value addition** in agriculture by setting up a food processing target of at least 25% of the produce as India is currently way behind on this compared to most of Southeast Asian countries in this area.
- **Market Reforms**
  - Undertaking **mapping of mega-consuming centres** and link their retail networks with producing centres of each commodity identified with minimal number of intermediaries.
  - **Amending APMC Act** to allow direct buying from FPOs, and giving incentives to FPOs, private companies and NGOs, to build back-end infrastructure, as was done for milk.
  - **Reducing Market Exploitation by** making sure that farmers must receive at least 60% of what consumers pay on lines of milk wherein farmers get more than 75% of what consumers pay.
  - States should also be encouraged to adopt **Price deficiency payment schemes** such as Haryana's Bhavantar Bharpai Yojna for vegetables in case of fluctuation in prices.
  - Allowing **futures trading** and creating a national market for agriculture.
- **Investment in agri-logistics**, starting with modern warehouses and cold storages that can minimise wastages to less than 10% compared to 25-30% in traditional storages on farmers' fields.

Some other Measures to Curb Price volatility of Horticulture produce

- **Price Stabilization Fund (PSF)** with a corpus of Rs.500 crores to regulate price volatility of agricultural and horticultural commodities through procurement of farm produce, maintenance of buffer stocks and

regulated release into the market.

- **Establishment of Kisan Mandis** where FPOs can directly market their produce to wholesalers, organized retailers and ordinary consumers.
- **Encouraging production** of horticultural crops through a Centrally Sponsored schemes namely Mission for integrated Development of Horticulture
- **Essential Commodities Act**, 1955 & the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Act, 1980 and making hoarding and black marketing a non-bailable offence under them.
- **SAMPADA** (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) – incorporates scheme such as Mega Food Parks, Integrated Cold Chain and Value Addition Infrastructure. Infrastructure for Agro-processing Clusters, Creation of Backward and Forward Linkages, Creation/Expansion of Food Processing & Preservation Capacities etc.

Budget Announcements

- **Linking Minimum support price** with cost of production i.e. about 50 per cent over the cost of production
- **Income-tax concession to FPOs** for five years if they encourages building that critical infrastructure.
- Connecting 470 APMC promoted markets to the **e-nam market platform**, and development of **22,000 Gramin agriculture markets**.

Operation Flood

- It was started by National Dairy Development Board.
- It aimed at increasing milk production, augmenting rural income and ensuring affordable prices for consumers
- As a result, India became the largest producer of milk and milk products

Champion Sectors In Services

Why in news?

The Union Cabinet recently approved an action plan for 12 champion services sector identified by the Ministry of commerce and industry for special focus.

More on news

- The Group of Secretaries in their recommendations to the Prime Minister, had identified ten Champion Sectors, including seven (7) manufacturing related sectors and three (3) services sectors, for promoting their development and achieving their potential

- It was subsequently decided that **Department of Industrial Policy and Promotion (DIPP)**, the nodal department for 'Make in India', would spearhead the initiative for the Champion Sectors in manufacturing and **Department of Commerce** would coordinate the proposed initiative for the Champion Sectors in Services.

- Accordingly, Department of Commerce, with wide stakeholder consultation coordinated the preparation of draft initial sectoral reform plans for several services sectors and, subsequently the action plan.

- The respective line Ministries/Departments shall finalize the Action Plans and the implementation timelines along with a monitoring mechanism to monitor implementation under the overall guidance of the **Committee of Secretaries (CoS) under Cabinet Secretary**.

- A **dedicated fund of Rs. 5000 crores** has been proposed to be established to support initiatives for sectoral Action Plans of the Champion Sectors.

Significance

- It will enhance the competitiveness of India's service sectors through the implementation of focused and monitored Action Plans, thereby promoting GDP growth, creating more jobs and promoting exports to global markets.

o The share of India's services sector in global services exports was 3.3% in 2015 compared to 3.1% in 2014. Based on this initiative, a goal of 4.2 % has been envisaged for 2022.

o A goal of achieving a share of services in GVA of 60 % (67% including construction services) has been envisaged by the year 2022 which is currently about 52%.

Better Regulatory Advisory Group

- The **Better Regulatory Advisory Group** has been convened under the **Department of Industrial Policy and Promotion** to look into the issues of regulatory processes for fast tracking of investments, both from the domestic and the foreign companies.

- Six sub-groups have been formed to identify regulatory bottlenecks and suggest best practices followed world over.

- The sub-group would look into areas of: **Income Tax, Goods and Services Tax, Corporate Laws, Financial Securities Law, Regulatory Impact Assessment and MSMEs**.

- It would help in promoting ease of doing business in the country.

KUSUM

Why in News

Kisan Urja Suraksha evam Utthaan Mahaabhiyan (KUSUM) scheme was announced in Budget 2018-19.

About KUSUM

- It aims to incentivise farmers to run solar farm water pumps and use barren land for generating solar power to have extra income.
- The total cost of the capacities under this scheme would be Rs 1.4 lakh crore, out of which, the Centre will provide Rs 48,000 crore financial assistance.

Components of KUSUM

- **Utilisation of barren land** by farmers to generate **10,000 MW** of solar energy and sell it to grid. For this, discoms would be given 50 paise per unit as generation based incentives to buy power from farmers for five years.
- The government will provide **subsidy** to farmers for buying **17.5 lakh off grid solar farm pumps**. The Centre and the states will provide 30% subsidy each on solar pumps. Another 30% will be met through loans while 10% of the cost will be borne by the farmer.
- **Solarisation of grid-connected farm pumps** involving 7,250 MW capacity.
- **Solarisation of government departments' grid connected water pumps**. **Expected Benefits**
- It would help in **de-dieseling of the agriculture sector** which currently uses approximately 10 lakh diesel run pumps.
- Help the **financial health of DISCOMs by reducing the subsidy burden** to the agriculture sector.
- Promotion of **decentralised solar power production**
- Provide water security to farmers through provision of assured water sources through solar water pumps – both off-grid and grid connected
- To support States to meet the renewable purchase obligation targets
- To fill the void in solar power production in the intermediate range between roof tops and large parks

Reduce transmission losses through off-grid systems.

Prime Minister's Employment Generation Programme

Why in news?

The Cabinet Committee on Economic Affairs (chaired by the Prime Minister) has approved the continuation of Prime Minister's Employment Generation Programme (PMEGP) beyond 12th Plan for three years from 2017-18 to 2019-20.

Changes made in scheme

- A second loan of up to Rs 1 crore to existing and better performing PMEGP units for upgrading with subsidy of 15%.
- **Merger** of Coir Udyami Yojana, a credit linked subsidy scheme to establish coir units, in PMEGP
- Introduction of **concurrent monitoring** and evaluation
- **Mandatory Aadhaar** and Pan card and Geo- tagging of units.
- Dispensing with the **ratio of 30:30:40** for KVIC/KVIB/DIC.
- **Negative list (**which contains list of activities not permitted under PMEGP for setting up of micro enterprises/ projects /units) has been amended, allowing serving/selling non- vegetarian food at Hotels/Dhabas and Off Farm/Farm Linked activities.
- Cap the **working capital component** for manufacturing units to 40% of the project cost and for service/trading sector to 60% of the project cost
- A minimum target of 75 project/district is awarded to all districts of the country to achieve Inclusive Growth.

About PMEGP

It is a major **credit-linked subsidy programme** being implemented by the Ministry of MSME since 2008-09 by merging the two schemes, namely Prime Minister's Rojgar Yojana (PMRY) and Rural Employment Generation Programme.

It is aimed at generating **self-employment** opportunities through establishment of micro-enterprises in the non-farm sector by helping traditional artisans and unemployed youth in rural as well as urban areas.

Decentralised Implementation: The Khadi and Village Industries Commission (KVIC) is the nodal implementation agency for the PMEGP at the national level. At the state/district level, state offices of KVIC, Khadi and Village Industries Boards (KVIBs) and District Industry Centres (DIC) are the implementing agencies.

The scheme's targets are fixed taking into account the extent of backwardness of state; extent of unemployment; extent of fulfilment of previous year targets; population of state/union territory; and availability of traditional skills and raw material

Higher rate of subsidy (25%-35%) will be applicable for women, SC/ST, OBC, Physically Disabled, NER applicants in rural areas.

Gobardhan Yojana

Why in news?

- The Gobardhan Yojana, announced in the Budget 2018-19, has been launched by the Haryana Government.

About Gobardhan (Galvanising Organic Bio-Agro Resources Dhan) Yojana

- It would be implemented under Swacch Bharat Mission- Gramin with twin objectives - To make villages clean and generate wealth and energy from cattle and other waste.
- It would focus on managing and converting cattle dung and solid waste in farms to compost, biogas and bio-CNG.
- An online trading platform will also be created to connect farmers to buyers so that they can get the right price for cow dung and agricultural waste.

The challenge is to incentivise farmers to think of their cattle waste as a source of income and, in the process, also keep their communities swachh

Need

- The 19th Livestock Census (2012) estimates India's cattle population at 300 million (highest in the world), putting the production of dung at about 3 million tonnes per day.
- According to a 2014 ILO study, the productive use of dung could support 1.5 million jobs nationally. For the farmer, there is a significant potential of greater income from the sale of cow dung.
- The ILO study also reports that the value of one kg of cow dung multiplies over 10 times, depending on whether the end product is fresh dung (sale price of Rs 0.13) or as input for a one megawatt biogas plant along with compost output (Rs 1.6).

Anti-Narcotics Scheme Gets A 3 Year Extension

Why in news?

Centre has extended a scheme which combats illicit trafficking in drugs and psychotropic substance for 3 more years till 2020.

More about the news

- **Assistance to States and UTs for Narcotics Control** scheme was initially launched in 2004 and has been extended since then.
- **Narcotics Control Bureau (NCB)** is the nodal agency for the scheme.
- Under the scheme **financial assistance** is provided to all the anti- narcotics agencies for strengthening their enforcement capabilities, to combat illicit trafficking in narcotic drugs and psychotropic substances.
- The strategies would include both supply reduction and demand reduction. **Supply reduction** would include enforcement activities while **demand reduction** would involve rehabilitation and de-addiction measures.

Status of Drug Abuse and Drug Trafficking in India

As per a home ministry report there are around 40 lakh drug addicts in India. The most common drugs of abuse are 'ganja', 'hashish', 'opium' and 'heroin'. Some of reasons for this are:

- Due to the presence of **Golden Crescent and Golden Triangle** in the region, India has been more vulnerable for narcotics trafficking and its abuse.
- **Implementation of laws** such as Narcotic Drugs and Psychotropic Substances Act, 1985 by the states has been tardy.
- Further the rise of **Virtual Currencies like Bitcoin** has also increased funding avenues for smugglers and drug traffickers.
- The **abuse of pharmaceutical preparations** like 'buprenorphine', codeine based cough syrups and painkillers like 'proxivon' within the country.

- **Other Factors:** Turf wars between various agencies, corruption, intelligence failure, lack of manpower and infrastructure, poor drug detection training, and procedural delays are other factors that hamper the effectiveness of the country's drug prevention efforts.

Impact

- **Socio-Political Impact:** Drug trafficking undermines the socio-economic and political stability and sustainable development.
- **Loss of Human lives:** Drug trafficking and abuse has continued its significant toll on valuable human lives especially and loss of productive years of many persons around the globe.
- **Ever-growing prevalence** of HIV/AIDS among North eastern states people has also been highlighted as one of major implication by UNDOC.

- **Linkage with Organised Crime:** It is considered to be the originator for petty offences as well as heinous crimes like smuggling of arms & ammunition and money laundering.
- **National Security:** Involvement of various terrorist groups and syndicates in drug trafficking leads to threat to the national security and sovereignty of states by the way of Narco-terrorism.

Steps Undertaken by India

- **Statutory Measures:** India has enacted Narcotics Drugs and Psychotropic Substances Act, 1985 (NDPS Act) and Prevention of Illicit Trafficking of Narcotics Drug and Psychotropic Substances Act, 1988 through which the country is addressing various aspects of drug problem
- **International Conventions:** India is signatory to all **three UN Conventions** namely , the Single Convention on Narcotics Drugs, 1962, the 1971 UN

Convention on Psychotropic Substances and the 1988 UN Convention against Illicit Trafficking of Narcotics Drugs, Psychotropic Substances and has also supported the global efforts led by UN office on drug and crime **(UNODC)** to curb perpetrating drug menace.

- **Inter-Governmental Initiatives:** India has entered into various arrangements like Bi-lateral Agreements, Memorandum of Understandings with Nepal, Thailand and Myanmar, Joint Working Groups on Counter Terrorism and Judicial Cooperation with the countries in the region.
- India has formulated **National Policy on Narcotics Drugs and Psychotropic Substances** which has given equal emphasis on supply and demand reduction.
- **New guidelines for grant of rewards** to be paid to officers, informers and other persons in case of seizures of Narcotics drugs, Psychotropic substances were also issued recently.
- **Ensuring physical security of the borders and coasts** by strengthening patrolling and surveillance.
- **Co-operating with voluntary organisations** in the endeavour to prevent abuse of narcotics and synthetic drugs
- **Other Initiatives:** National Awards for institutions & individuals working in the field of prevention of drug abuse and creation of National Drug Abuse Helpline Number which helps the victims of drug abuse and their families in counselling and other aids.

Way Forward
- **Synchronisation and coherence among domestic laws** of neighbouring countries to deter drug traffickers and also for translational exchange of criminals.
- **Developing Common strategies** to tackle with emerging threat of drug trafficking through maritime route.
- Further strengthening and upgradation of

intelligence network, upgradation of **surveillance equipment** and future requirements such as the setting up of training academy and drug labs.

Golden Triangle:

It is the region between the borders of Myanmar, Laos, and Thailand; a famous region for its opium production.

Golden Crescent:

- It is the second major area of illicit opium production in Asia spanning across three nations; Afghanistan, Iran, and Pakistan.
- It is located at the crossroads of Central, South and Western Asia.

National Policy on Narcotic Drugs and Psychotropic Substances 2014

- **Production of Concentrate of Poppy Straw (CPS)** in India by a company or body corporate to enable India to retain its status of a traditional supplier of Opiate Raw Material (ORM)
- **Gradual reduction of** consumption of poppy straw by addicts
- **Use of satellite imageries** for detection of illicit crop of poppy and cannabis and its subsequent eradication and development of **alternate means of livelihood** for cultivators.
- **Allowing private sector production** of alkaloids from opium which are at present produced only by Government Opium and Alkaloid Factories (GOAFs).
- **Adequate access to morphine** and other opioids necessary for palliative care
- A **time bound plan of action,** in response to the recommendations of the International Narcotics Control Board.

MISSILE TESTS

Why in news?

Recently several missiles were successfully test fired at various locations

- Agni II missile from the Abdul Kalam Island off Odisha coast.
- Dhanush Ballistic missile from a naval ship off Odisha coast
- Prithvi-II missile from Integrated Test Range at Chandipur.

Anti Tank Guided Missiles (ATGM) Nag in desert conditions

Agni II

- It is **an indigenously developed surface to surface missile** developed by Advanced systems laboratory along with DRDO laboratories and integrated by the Bharat Dynamics Limited and has been already inducted into the services.
- Agni II is a two stage missile with a strike range of 2000km which could be increased up to 3000 km if the weight of the payload is reduced.
- It is equipped with **advanced high accuracy navigation system**, guided by a novel scheme of **state of the earth command** and **control system** and was propelled by **solid rocket propellant system.**
- The Missile is the part of **Agni series of missiles** which include Agni 1 with 700 km range, Agni III with 3000 km range, Agni IV and Agni V both having long range capabilities.

Dhanush

- It is a nuclear capable surface-to-surface missile, a naval variant of the indigenously-developed 'Prithvi' missile under the **Integrated Guided Missile Development Programme (IGMDP).**.
- It has a strike range of 350 km and can neutralise both land and sea based targets.
- It is a single-stage, liquid-propelled is capable of carrying a payload of 500kg of conventional or nuclear warhead. It has

already been inducted in the defence services.

Prithvi-II

- Prithvi-II is indigenously developed and is nuclear-capable surface-to-surface. It is a short-range ballistic missile (SRBM) developed by DRDO.
- Prithvi-II is capable of carrying 500-1,000 kilogram of warheads. With a strike range of 350 km, Prithvi-II is powered by twin-engines which use liquid propulsion.
- It also uses advanced inertial guidance system with manoeuvring trajectory to hit its target.

NAG

- It is a **third generation "fire and forget" ATGM** developed by the DRDO.
- The missile is equipped with highly **advanced Imaging Infrared Radar (IRR) seeker** and has integrated avionics technology in its arsenal.
- Nag can be launched from land and air-based platforms. The land version is currently available for integration on the **Nag missile carrier (NAMICA),** which is derived from a BMP-2 tracked infantry combat vehicle.
- The helicopter-launched configuration, designated as **helicopter-launched NAG (HELINA)**, can be fired from Dhruv advanced light helicopter (ALH) and HAL Rudra attack helicopter.
- The land based version has maximum range of four kilometres while air based version has a maximum range of seven kilometres.

Paschim Lehar Exercise

Why in news?

Recently, Western Naval Command conducted tri-services maritime exercise Paschim Lehar.

More about the Exercise

- The tri-service exercise was conducted in Arabian Sea which includes participation of a large number of ships, submarines and aircrafts from **Western Naval Command** of the **Indian Navy.** The exercise aims to build interoperability.
- Units from Eastern Naval Command, Indian Army, Indian Air Force and Indian Coast Guard are participating in the exercise.

It is significant for India's presence in Indian Ocean Region and also to counter growing Chinese influence in Indian Ocean Region

Indo-Seychelles Joint Army Exercise-Lamitye

Why in news?

Recently, 8th joint military joint exercise was conducted between Indian Army and Seychelles People's Defence Forces.

More about the Exercise

☐ It is an anti-narcotic, anti-piracy and counter-terrorism operation which was first conducted in **2001** with an aim of **enhancing military cooperation** and **interoperability** between Armies of the two countries.

☐ The main focus of the current exercise is to **conduct counter-insurgency** and **counter-terrorist operations** in **semi urban environment** under the United Nations charter.

☐ During the exercise the contingents will sharpen their **tactical and technical skills** in countering insurgency and terrorism in **UN Peacekeeping**.

RUSTOM-2 DRONE

Why in news?

Recently DRDO successfully carried out test flight of Rustom-2 drone.

More about Rustom-2

- Rustom-2 is medium-altitude long-endurance drone (MALE) designed and developed by Aeronautical Development Establishment (ADE) of the DRDO, and Hindustan Aeronautics Ltd and Bharat Electronics.
- It can fly up to an altitude of 22,000 feet and has endurance of over 20 hours
- It can carry variety of payloads like Electronic Intelligence (ELINT), Synthetic Aperture Radar (SAR), Communication Intelligence (COMINT) and Situational Awareness Payloads (SAP) for performing missions even during the night.
- It will be used by all three services of Indian armed forces, primarily for intelligence, surveillance and reconnaissance (ISR) operations.

Rustom 2 can fly missions on manual as well as autonomous modes.

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Green Skill Development Programme

Why in news?

The government is expanding the Green Skill Development Programme (GSDP) to an all-India level.

More on news

☐ Utilising the vast network and expertise of ENVIS Hubs/RPs, the Ministry of Environment, Forests & Climate Change (MoEF&CC) has taken up an initiative for skill development in the environment and forest sector to enable India's youth to get gainful employment and/or self-employment, called the

Green Skill Development Programme (GSDP).

☐ After a pilot project in 2017, now ministry has taken following steps to expand it:

    o **Increased budget allocation** for ENVIS in budget 2018-19 by 33%. Out of this, the training courses under GSDP will be funded.

    o **Increased target:** A total of 5 lakh 60 thousand people will be imparted training between 2018-19 and 2020-21.

    o **More green skills now:** The government has identified 35 courses including pollution monitoring (air/water/noise/soil), effluent treatment plant operation, forest management, water budgeting etc.

Why important?

☐ **Skilling the unskilled:** By 2022 India will need around 10.4 crores of new workforce in various sectors and hence skill development is prerequisite to meet the demand.

☐ The trainees of this programme can also be exposed for the **expertise on wildlife conservation**, nurseries, horticulture etc. and can be absorbed with Department of Environment and Forests of the State Governments as well

☐ **Focus on equity:** the programme aims to

train youth who have not been able to continue higher education due to different financial or social constraints but has an urge to learn new things and do something fruitful.

☐ The green skilled workforce having technical knowledge and commitment to sustainable development will help in **attainment of SDGs, INDCs and National Biodiversity Targets**.

☐ Green skill is crucial for making **a transition from energy and emission intensive economy to cleaner and greener production** and service patterns.

Environmental Information System (ENVIS)

- *It is a central sector scheme, being implemented by MoEF&CC since 1982-83.*
- *It is a decentralized network of centres of which*
  - o *Some centres dealing with "State of the Environment and Related Issues" are hosted by State Government /UT Administrations, called **ENVIS Hubs***
  - o *Some are hosted by environment-related governmental and non-governmental organisations/ institutes of professional excellence, with varied thematic mandates pertaining to environment, called the **ENVIS Resource Partners (RPs)**.*

Green Skills: Green skills are those skills needed to adapt products, services and processes to climate change and the related environmental requirements and regulations. They include the knowledge, abilities, values and attitudes needed to live in, develop and support a sustainable and resource-efficient society. (OECD definition)

These skills are required in areas such as such as Renewable energy, Waste water treatment, Climate resilient cities, Green construction, Solid waste management etc.

Three Parents Baby

Why in news?

UK became the first country to have officially approved procedures to create "three-parent" babies.
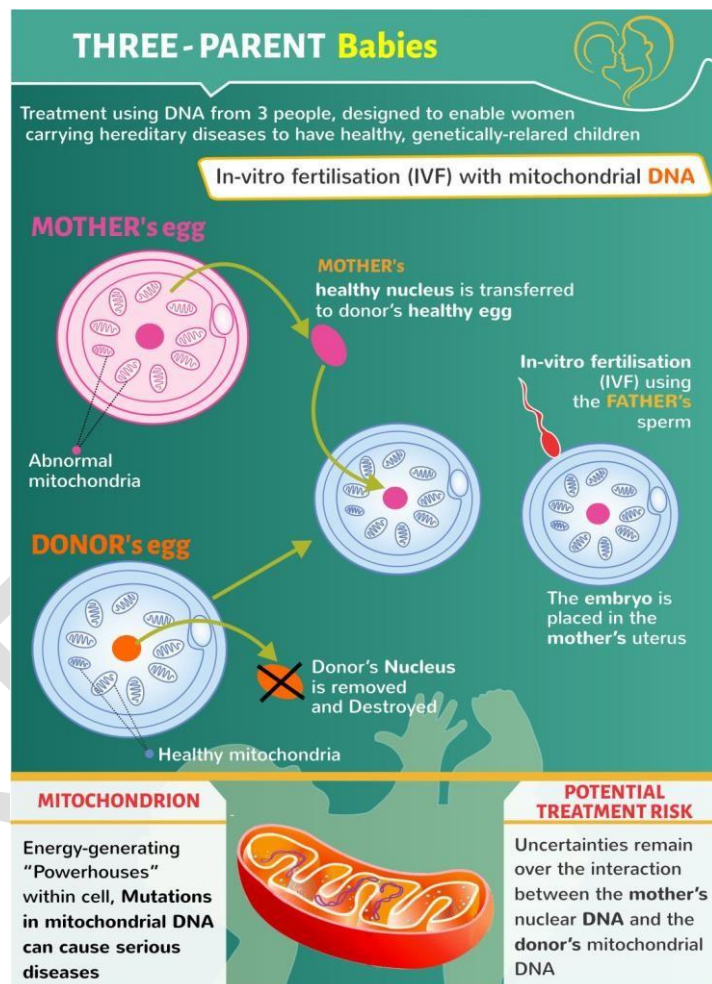
About "three-parent" babies

- **Mitochondrial Replacement therapy (MRT)** is used to **replace mother's faulty Mitochondrial DNA with healthy Mitochondria from a donor woman** during IVF process, thus the name- "three-parent" baby
- The resulting child is still **conceived from two parents** and will have **nuclear DNA from the woman and her partner, and mitochondrial DNA from the donor**.
- The donor's mitochondria contribute **just 37 genes to the child**, compared with more than 20,000 from the parents. That is a **negligible amount** and far less than one would gain from a blood transfusion or organ transplant.
- **No other characteristics** in terms of intelligence, eye colour, hair colour, height etc. are changed.

Issues involved

- **Safety Implications-** Long term evolutionary implications and unintended consequences on the heredity and future generations are unknown.
- **Religious Grounds-** Some groups believe that technologies which manipulate or interfere with human eggs and embryos should not be used
- **Ethical Issues**- Parents may misuse the technique to get "genetically modified" or "designer" babies.

Way Forward

MRT technique should be developed and administered in a regulated environment such that it can be used to prevent fatal diseases while ensuring that it is not misused and only those who need it get access to it.

THREE - PARENT Babies

Treatment using DNA from 3 people, designed to enable women carrying hereditary diseases to have healthy, genetically-related children

In-vitro fertilisation (IVF) with mitochondrial **DNA**

MOTHER's egg

MOTHER's healthy nucleus is transferred to donor's **healthy egg**

In-vitro fertilisation (IVF) using the **FATHER's** sperm

Abnormal mitochondria

DONOR's egg

The **embryo** is placed in the mother's uterus

Donor's Nucleus is removed and Destroyed

Healthy mitochondria

MITOCHONDRION

Energy-generating "Powerhouses" within cell, **Mutations in mitochondrial DNA can cause serious diseases**

POTENTIAL TREATMENT RISK

Uncertainties remain over the interaction between the **mother's nuclear DNA** and the **donor's mitochondrial DNA**

About Mitochondrial Disease

- The mitochondria are organelles inside cells that are involved in releasing energy by **producing adenosine triphosphate (ATP)**, the key energy currency that drives metabolism.
- Mitochondria are **inherited solely from the mother** and this results into cases of babies been born with **rare mitochondrial diseases** if mother has the faulty mitchochondrial DNA.

Dust Mitigation Plan

Why in news

Recently, Centre has notified dust mitigation norms to arrest dust pollution.

Need of these rules

- IIT Kanpur study on Delhi's air pollution in 2015 had identified road dust as one of the biggest source of suspended particulate matter in the city.
- According to **Central Pollution Control Board (CPCB),** 31 and 195 cities exceeded

the prescribed PM2.5 and PM10 limit, standard respectively.

More about news

- Rules are notified under the **Environment (Protection) Act, 1986**, which empowers Environment Ministry to issue notices against local authorities and state agencies for non-implementation of those actions
- These standards were developed by the Central Pollution Control Board as part of the National Ambient Air Quality Standards (NAAQS)
- The rules are applicable on cities which exceed the annual prescribed limit of 40 µg/m3 for PM2.5 and 60

µg/m3 for PM10

- It also **empowers CPCB** to fine companies and agencies for not complying with norms.

Highlight of rules

- **Mandatory dust mitigation plan** for all building or infrastructure projects seeking environment clearance.
- **No soil excavation** without adequate dust mitigation measures in place.
- No loose soil, sand, construction waste could be left **uncovered**. **Mandatory water sprinkling** system
- **Prohibition on grinding and cutting** of building materials in open area
- **No uncovered vehicles** carrying construction material and waste would be permitted.

- Roads leading to, or at construction sites must be **paved and blacktopped** (i.e. metallic roads)
- **Wind-breaker** of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided;
- Dust mitigation measures shall be displayed prominently at the construction site for **easy public viewing**
- **Clean all vehicles** before leaving the construction site
- Use **wet jet for grinding** and stone cutting.

Central Pollution Control Board

It is statutory organisation constituted in 1974 under the Water (Prevention and Control of Pollution) Act, 1974. Further, CPCB was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

Functions

- *To promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution, and*
- *To improve the quality of air and to prevent, control or abate air pollution in the country.*

Pollutants covered under NAAQS

Sulphur dioxide, Nitrogen dioxide, lead, Ozone, PM10, PM2.5, carbon monoxide, Ammonia, Arsenic, Benzene, Benzopyrene, Nickel.

Women In Stem Careers

Why in news?
According to the 'Revisiting Women in STEM' survey, 45% of those working in STEM (Science, technology, engineering, and medicine) jobs were dissatisfied with their current career choice.

Why is women representation in STEM important?

- Most of the high-tech jobs in STEM field are high-paying, meaning that the lack of women in these roles is contributing to gender salary gap
- A lack of women in these fields means fewer female role models, both for current female STEM employees, and for girls still forming career choices.
- STEM is the fastest growing field with new technological innovations changing our way of life.
- Science fails to benefit from other points of view.

What could be done?

- Program and policy focus needs to start at the

community level and coordinate inclusively with all actors and stakeholders across sectors and fields of study.

- Girls need to receive the necessary education to become leaders. Women in leadership roles can inform policy and influence exposure and access to STEM careers for girls and women.
- Existing policies and laws designed to expose STEM trainings need to be implemented and enforced.
- Adapt national plans to local levels to ensure a path to STEM careers begins early.

Why are women not joining STEM?
- *Need to upskill constantly*
- *Long hours*
- *Male-dominated office environment.*
- *Society and media generally did not encourage women to join STEM*
- *Pressures of family to conform to traditional gender roles*
- *Less likely to be paid as much as men*
- *Perceived a gender bias in performance evaluation.*

Initiatives in India

- CBSE has launched a scheme "**Udaan**" to provide free online resources to girl students of Class XI and Class XII for preparation of admission test for the premier engineering colleges in the country.
- Scheme to provide assistance for Advancement of Girls participation in Technical Education launched by **All India Council for Technical Education (AICTE)** envisages to grant 4000 scholarships per annum.

HEAT WAVE

Why in news?

Recently, IMD in its annual summer forecast, predicted that summer months from March-May will be "warmer" than normal temperature.

More on news

- In view of this forecast, NDMA (National Disaster Management Authority) is preparing states to deal with Heat Wave 2018.
- The instances of heat wave have been increasing. According to Ministry of Earth & Science (MoES) there were 74 days of severe heatwave on an average between 1961 and 1970, peaking to 98 days between 2001 and 2010.
- According to **Global Climate Risk Index 2018,** India is the sixth most vulnerable country in the world in terms of facing extreme weather events [storms, floods and temperature extremes (heat and cold waves)]

Reason for Heat Waves

- **Weather Phenomenon**: In summer season, there is an upper air anti-cyclone over Rajasthan and Gujarat. It sucks hot dry desert air which gets transported to Madhya Pradesh, Andhra Pradesh, Telangana and Odisha.
- **El Nino Impact**: Studies have linked an increase in heat waves to more increase in El Nino events, or years marked by an anomalous heating in the Central Pacific Ocean.
- **Indian Ocean temperatures** are also rising faster than the other ocean which might be reducing moisture over the Indian mainland, thus playing some part in longer stretches of hot days.
- **Other Reason**: Deforestation, the urban heat-island effect, and industrial pollution are also blamed for exacerbating heat waves

NDMA's Guidelines for Preparation of Action Plan – Prevention and Management of Heat-Wave

- **Enabling an early Warning System** that provides advance forecast about high temperatures and impending heatwaves
- **Drafting and Developing Heat Action Plan by states:** with participation from State and district government leaders, municipal health agencies, disaster management authorities and local partners.
- **Appointment of a State Nodal Agency and Officer:** at the State or district levels to oversee the Heat Action Plan
- **Vulnerability Assessment and Establishing Heat-Health Threshold Temperatures**: To identify vulnerable areas and populations in order to establish priorities and minimum thresholds for heat alerts and activities.
- **Inter-agency cooperation and engagement:** Develop a clearly defined inter-agency emergency response plan with roles and information flows clearly marked out.
- **Implementation and Monitoring**: Government along with public should be made are responsible for implement and monitor the components of a heat action plan
- **Evaluating and Updating the Plan**: After every heat season, state must assess the efficacy of its heat action plan and updated it annually by incorporating feedback from stakeholders.
- **Strategies for Reducing Extreme Heat Exposures and Adapting to Climate Change (Long term plans)**: States should consider mitigation strategies to reduce the impact of extreme heat, such as increasing the green cover in a city to reduce urban heat island effect etc.
- **Improving preparedness of local level health system**: by capacity building Of Health-Care Professionals to treat people

with heat-related complications

- ☐ **Undertaking public awareness and community outreach initiatives:** involving various media, non-government and civil society etc.

Normal Temperatures: It refers to the mean temperatures during those months between 1981 and 2010.

Heat Wave: According to NDMA, It's a period of abnormally high temperatures (more than the normal maximum temperature) that occurs during the summer season, with the resultant atmospheric conditions causing physiological stress, and sometimes death, among affected populations.

Indian Meteorological Department (IMD) classification of heat wave:

- Heat wave need not be considered till maximum temperature of a station reaches at least 40ºC for Plains and at least 30ºC for Hilly regions.
- When normal maximum temperature of a station is less than or equal to 40ºC
  - o **Heat Wave**: Departure from normal is 5º C to 6º C
  - o **Severe Heat Wave**: Departure from normal is 7º C or more
- When normal maximum temperature of a station is more than 40º C
  - o **Heat Wave:** Departure from normal is 4º C to 5º C
  - o **Severe Heat Wave:** Departure from normal is 6º C or more
- When actual maximum temperature remains 45ºC or more irrespective of normal maximum temperature, heat wave is declared.

Impacts of Heat Waves: It typically involves health impacts such as dehydration, heat cramps, heat exhaustion and/or heat stroke. It claimed 4620 deaths between 2013 and 2016.

Heat Wave Vulnerability Index

- Index was published in The International Journal of Environmental Research and Public Health, in 2017
- It can be used by planners, policymakers, and disaster mitigation experts in protecting the public from the health burden of heat.

Way Forward

- ☐ **Limiting temperature rise to 1°C:** Adherence to Paris Agreement and limiting global mean temperature below 2°C might also cause a 30-fold increase in severe heat wave frequency by the end of the century.
- ☐ **Strengthening state government's capacity** to improve their mitigation preparedness in the same way as Ahmedabad which has adopted Heat Action Plan on the lines of guidelines by NDMA**.**
- ☐ **Get institutional support** by Inclusion of heat waves in the notified list of natural disasters
- ☐ **Promotion of traditional adaptation practices** such as staying indoors and wearing comfortable clothes.
- ☐ **Popularization of simple design features** such as shaded windows, underground water storage tanks and insulating housing materials.

Secondary Patents

Why in news?

About 1,700 rejections for pharmaceutical patents at the Indian Patent Office, were applications that sought protection in the form of secondary patents for blockbuster medicines.

About secondary patents

- Patents offer their owners market exclusivity for a limited period of time. For medicines, this exclusivity should last as long as the primary patent — which relates to the active pharmaceutical ingredient (API) of the medicine — is in effect, typically 20 years.
- The end of patent exclusivity is referred to as a patent cliff, because drug prices fall steeply afterwards — by as much as 80% — owing to generic competition
- But the threat of this precipitous fall in profits drives pharmaceutical companies to find new ways to postpone their exclusivity by filing secondary patents for derivatives and variants of the API, such as a physical variant of the API, a new formulation, a dosage regimen, or a new method of administering the medicine.
- The secondary patents prop up before the expiry of a primary patent thereby stretching the exclusivity beyond, a practice that is called "**evergreening**". This strategy is most lucrative when employed in the context of so-called blockbuster medicines, which reap annual revenues exceeding $1 billion.

Innovations in Indian patent law to stop secondary patents

- **Section 2(1)(ja) of the Patents Act**, the product in question must feature a technical advance over what came before that's not obvious to a skilled person. Because secondary patents for pharmaceuticals are often sought for trivial variants, they typically fail to qualify as an invention.
- **Section 3(d):** when a medicine is merely a variant of a known substance, Section 3(d) necessitates a demonstration of improvement in its therapeutic efficacy. The provision also bars patents for new uses and new properties of known substances.
- **Section 3(e)** ensures that patents for combinations of known substances are allowed only if there is synergistic effect.
- **Section 3(i)** ensures that no exclusivity can be claimed over methods of treatment.
- These provisions also extend to **biologics**, the new big players in the therapeutics marketplace.Biologics due to their complex structure offers more opportunity in secondary patenting for extending patent terms.

Together, Sections 3(d), 3(e) and 3(i) have been instrumental in rejecting close to 1,000 secondary patents for pharmaceuticals according to a study.

Supercritical CO2-Brayton Cycle

Why in news?

Indian scientists have developed a **super critical carbon dioxide** Brayton test loop facility that would help generate clean energy from future power plants.

Key facts

- ☐ The laboratory scale test loop was developed by a research group at the Interdisciplinary Centre for Energy Research, IISc, as part of the Indo-U.S. consortium called Solar Energy Research Institute for India and the United States, Funded by the Department of Science and Technology.

- ☐ This is India's first test-bed for next generation, efficient, compact, waterless super critical carbon dioxide

Brayton cycle test loop for power generation.

- ☐ The term "supercritical" describes the state of carbon dioxide above its critical temperature of 31°C and critical pressure of 73 atmospheres making it twice as dense as steam.

Significance

- ☐ Today's thermal power plants use steam to carry heat away from the source and turn a turbine to generate power. However, it could generate more power if, instead of steam, **supercritical CO2 (SCO2)** is used.

- ☐ The new generation high efficiency power plants with closed cycle CO2 as the working fluid have the potential to replace steam based nuclear and thermal power plants, thus reducing the carbon foot print significantly.

Ash Track

Why in news?
- The government of India has launched a web based monitoring system and fly ash mobile application named ASH TRACK.

About the Platforms
- These platforms will enable better management of the ash produced by thermal power plants by providing an interface between fly ash producers (Thermal Power Plants) and potential ash users such as – road contractors, cement plants etc.
- The ASH TRACK App would be managing 200 million tonnes of fly ash by tracking coal based power plants situated within 100 km and 300 km from given location and availability of fly ash, along with prospective users within the same radius.
- The App gives plant-wise, utility-wise and State-wise ash utilization status in the country.
- The thermal plants are required to regularly update fly ash generation, utilisation and stock on the web portal and the app.

Facts on Fly Ash
- It is a fine powder, which is the **by-product of burning coal** in thermal power plants.
- It is a proven resource material for many applications of construction industries and currently is being utilized in **manufacturing of portland cement, bricks/blocks/tiles manufacturing**, road embankment construction and low lying area development, etc.
- It can be advantageously **used in agriculture** as an agent for acidic soils, as soil conditioner — improving upon some important physico-chemical properties of the soil such as hydraulic conductivity, bulk density, porosity, water holding capacity, etc.
- India is still not able to match the potential of its fly ash use. As per a recent study by CSE only 50- 60% of the fly ash generated is being utilized. Following steps have been taken to utilize its potential:

o 2009 notification of MoEF provided **guidelines on ash utilization** advocating its usage within 100 km radius of thermal power plants.

o New and innovative uses are also taking place- especially initiated by power companies like NTPC in collaboration with Institutes like IIT-Delhi and IIT-Kanpur e.g. Manufacture of pre-stressed railway concrete sleepers

o **Maharashtra** became the first state in the country to adopt the Fly Ash Utilization Policy and has decided to come up with an export policy for fly ash in the light of demand from places like Singapore and Dubai.

World Sustainable Development Summit 2018

Why in news?
Recently, World Sustainable Development Summit 2018 was inaugurated by Prime Minister in New Delhi.

About World Sustainable Development Summit (WSDS)
- It is a flagship forum of **The Energy and Resources Institute (TERI)** which has been conceptualised as a single platform to accelerate actions towards sustainable development and climate change.
- It seeks to bring together global leader and thinkers on
- a common platform on various issues of sustainable development such as transition to clean energy, effective waste management mechanisms, combating air pollution etc.
- It has been built on the success of the **Delhi Sustainable Development Summit (DSDS)** which was the leading forum for discussing sustainable development issues.
- The theme for 2018 event is **'Partnerships for a Resilient Planet'.**
- It was launched by The Energy and Resources Institute (TERI) on the sidelines of the World Sustainable Development Summit (WSDS) 2018.
- It is a unique, high-level, multi-stakeholder platform with experts from diverse fields to suggest pathways for energy and electricity sector transitions in India
- This is inspired by the work of the Global Commission on the Economy and Climate and its flagship project the New Climate Economy.
- It is the first country-specific Commission and thus can act as a model for other emerging economies as they seek to move to renewable energy sources.
- It will also help in a change towards low-carbon energy systems that enable robust economic development and limit the rise in global temperature to well below 2 degrees Celsius.

The Energy and Resources Institute (TERI)
- It is a non-profit, scientific and policy research organization located in Delhi in the fields of energy, environment and sustainable development issues since 1974.
- **Green Rating for Integrated Habitat Assessment (GRIHA)** was conceived by TERI and developed with Ministry of New and Renewable Energy, is a national rating system for green buildings in India.

Active Pharmaceutical Ingredients

Why in News?

Department of Pharmaceuticals (DoP) has seek support from other government departments to reduce India's dependence on **Active Pharmaceutical Ingredients** (APIs).

Background

- **Bulk drugs or APIs** are the active raw materials used in a drug that give it the therapeutic effect.
- **India's API imports** from top five countries stood at Rs 18,372 crore in 2016-17 with China accounting for 66%.
- **V.M. Katoch committee** was formed to formulate a long-term policy and strategy for promoting domestic manufacture of APIs/bulk drugs in India.

Challenges to API Industry

- **Low profitability** in API business is one of the major reasons for Indian companies to shift their focus to formulation industry.
- **Monetary Policy**: High Interest rates in country at 12% in compare to China where, the interest rate on loan is 5%
- **Stepmotherly Treatment by the Government**: Finished drugs industry are provided with tax-free zones and other concessions while API manufacturers are exposed to **Inverted duty structure**
- Regulatory bottleneck: Pharmaceutical firms currently need a lot of clearances to set up a manufacturing plant which has affected country's competitiveness and capability in manufacturing some of APIs.
- Quality of Imported API: India's drug regulator Drug Controller General of India (DCGI) in January 2018, has banned the import of ingredients of drugs from six major Chinese pharmaceutical firms on quality concern.

Brayton cycle - A thermodynamic cycle using constant pressure, heat addition and rejection to spin the blades of a turbine, which can be used to generate electricity.

Salient features of the recommendations of the Katoch committee:

- Establishment of Large Manufacturing Zones (LMZs)/ Mega Parks for APIs.
- Mega Parks need to be provided with common facilities such common Effluent Treatment Plants (ETPs), Testing facilities, Assured power supply, Common Utilities/Services such as storage, testing laboratories, IPR management etc.
- Large manufacturing zones could be set up in National Manufacturing Investment Zones/ petroleum, Chemicals and Petrochemical Investment Regions (PCPIRs) in states that have the requisite facilities/system in place.
- The bulk drug industry is one of the major polluting industries so it is necessary to have proper rules and regulations to check on the pollution level and the quality of output.
- There is an urgent need to start few large API intermediate clusters to transform the nation as one such cluster can bring around one billion dollar per year.
- Single window clearance and fiscal and Financial incentives such as tax breaks, soft loans etc. should be made available**.**

Government effort to promote API in India

- Government has designated 2015 as the Year of Active Pharmaceutical Ingredients to make India becomes self-sufficient in the Bulk Drugs.
- It had withdrawal exemption in customs duties which were earlier given to certain categories of drugs and bulk drugs to provide a boost to the domestic manufacturers.
- It has proposed "peak customs duty" for all APIs that can be indigenously manufactured.
- Department of Commerce has been asked to check unhindered import of APIs and to put up a system of 'canalisation'.
- Ministry of Power has been asked to ensure

availability of power at cheaper rates for domestic API manufacturing plants

- Health Ministry has been asked to impose higher registration fees on imports and stipulate time-bound requirements for foreign companies, which are exporting active pharmaceutical ingredients to India, to establish their Indian production facilities.

Sustainable Biofuels

Why in news?
- A two-day international conference on Sustainable Biofuels was hosted by India on behalf of Mission Innovation and Biofuture Platform.

Key facts
- The conference aims at providing platform for exchanging experiences and challenges related to development and scaling of advanced biofuels.
- Importance of sustainable biofuels led to establishment of Sustainable Biofuel Innovation Challenge (SBIC)
- as one of the seven challenges under Mission Innovation (MI).
- This challenge aims to accelerate research, development and deployment of low cost, high GHG impacting advanced biofuels.
- The co-leads of sustainable biofuel challenge are China, Brazil, Canada and India.

Generations of Biofuels First Generation Biofuel
- They **are produced directly from food crops**.
- Crops such as wheat & sugar are the most widely used feedstock

Second Generation Biofuel
- They are produced from **marginal croplands unsuitable for food production or non-food crops** such as wood, organic waste, food crop waste and specific biomass crops. For example- Jatropha
- Thus, it overcomes over food vs fuel debate in first generation biofuel.
- It is also aimed at being cost competitive in relation to existing fossil fuels and increasing Net energy gains.

Third Generation Biofuels
- It is based on improvements on the production of biomass by taking advantage of **specially engineered energy crops**

such as algae as its energy source.
- The algae are cultured to act as a low-cost, high-energy and entirely renewable feedstock.
- Algae will have the potential to produce more energy per acre than conventional crops.

Fourth Generation Biofuels
- Fourth Generation Bio-fuels are aimed at producing sustainable energy and also capturing and storing carbon dioxide.
- This process differs from second and third generation production as at all stages of production the carbon dioxide is captured which can be then geo-sequestered.
- This carbon capture makes fourth generation biofuel production carbon negative rather than simply carbon neutral, as it is 'locks' away more carbon than it produces.

Mission Innovation (MI)
- It is a global initiative of 22 countries and the European Union to dramatically accelerate global clean energy innovation.
- It seeks to double investments in clean energy innovation over five years
- Department of Biotechnology (DBT) is nodal agency of this mission in India

Biofuture Platform
- It is a 20-country effort to promote an advanced low carbon bioeconomy that is sustainable, innovative and scalable.

It has been proposed by Brazil and Brazil is serving as the interim secretariat of this platform.

Red Sanders

Why in news?

Recently it was reported that the smuggling of red sanders from the forest of Andhra Pradesh has started again through new routes instead of traditional route.

Red Sanders

- Pterocarpus santalinus or Red Sanders is an **endemic tree** of South India.
- They are found in **Tropical Dry Deciduous** forest of the Palakonda and Seshachalam hill ranges of Andhra Pradesh and also found in Tamil Nadu and Karnataka.
- Red Sanders usually grow in the rocky, degraded and fallow lands with Red Soil and hot and dry climate.
- IUCN has put it under the category of **endangered species** in the Red List due to the dwindling population because of illegal felling and smuggling.
- It is used for various purposes such as immunity medicine, furniture, radiation absorbent, musical instrument, food dyes and spices, Ayurveda and Sidha medicine, decorative and ornamental purposes etc.
- It is a rare kind of sandalwood, high in demand internationally due to its **red colored wood**. The major markets for the wood are – China, Japan, Middle East, Sri Lanka, Bhutan and Nepal.

Its export is banned in India in accordance with the **CITES** and **Wildlife Protection Act 1972**. However, its smuggling is rife and is rampant in the southern states of Karnataka, Andhra Pradesh and Tamil Nadu.

Svalbard Global Seed Vault

Why in news?

- The Svalbard Global Seed Vault in Norway completed 10 years of its official opening.

About the Svalbard Seed Vault

- It is a state-of-the-art seed protection facility, famously called the '**Doomsday'** or the '**Apocalypse' Seed Bank** or **'Noah's Ark for seeds'**
- It is situated in the remote **Arctic Svalbard archipelago**.
- It was established in 2008, and serves as the **primary backup for the world's other seed banks** currently holding nearly one million seed samples from the world's gene banks.
- The seed packages can be accessed only by the depositing authorities with **no transfer of ownership.**

India's Seed Vault

- It is situated at **Chang La, Ladakh**
- Built jointly by the Defence Institute of High Altitude Research (DIHAR) and the National Bureau of Plant Genetic Resources (NBPGR) in 2010 under the aegis of Defence Research and Development Organisation (DRDO), this permafrost seed bank is the second largest in the world.
- Presently, the only other facility in India for long-term storage of seeds is the one set up by **Indian Council of Agricultural Research (ICAR) New Delhi**.

Spacex's Flacon Heavy Launched

Why in news?

Recently, Falcon heavy rocket lift off from Cape Canaveral.

More about Falcon Heavy

- Falcon Heavy is the most powerful rocket in the world after NASA's Saturn V.
- It has been developed by **private spaceflight company SpaceX** and is 230 feet tall and can lift nearly 64 metric ton pay load to low Earth Orbit at a cost of 90 million USD.

The engine can be started multiple times to place payloads in various orbits such as **low Earth, geosynchronous transfer orbit (GTO) and geosynchronous orbit.**

FALCON HEAVY
The World's Most Powerful Rocket

Height:	70 meters (229.6 feet)
Stages:	Two
Boosters:	Two
Re-usable Cores:	Three
Engines:	27
Total width:	12.2m
Mass:	1,420,788 kg
Total thrust at lift-off:	22,819 kilonewtons

PAYLOAD
- To Low Earth Orbit: **63,800 kg**
- To Mars: **16,800 kg**
- Will allow SpaceX to enter the new satellite launch markets

Olive Ridley Nest At Rushikulya

Why in news?

Olive Ridley turtles created an all-time record of mass nesting at the **Rushikulya rookery** coast in the Ganjam district of Odisha.

About Olive Ridley

- It is best known for their unique mass nesting called **Arribada**, where thousands of females come together on the same beach each year to lay eggs.
- It is included in **Vulnerable** category by the **IUCN Red list** because they nest in a very small number of places, and thus, any disturbance to even one nest beach could have huge repercussions on the entire population.
- They are found along both- **eastern and western coasts of India**.
- Two other major nesting sites in Odisha are - coast along **Gahirmatha beach** (the largest mass nesting site) and **the mouth of the Debi river**
- Trading in products of Olive Ridley is banned under **CITES.** The species is also a protected animal under Schedule 1 of India's **Wildlife Protection Act**, **1972.**

Threats faced by Olive Ridleys:

- o Accidental killing of adult turtles through entanglement in trawl nets and gill nets due to uncontrolled fishing during their mating season around nesting beaches.
- o Development and exploitation of nesting beaches for ports, and tourist centres.
- o Poaching for their meat, shell and leather, and their eggs.

Steps taken by Government

- Making use of Turtle Excluder Devices(TEDs) mandatory for fishermen to reduce accidental killing of these turtles
- Temporary fences have been erected on a stretch of

4.5 km to prevent predators

- Continued Patrolling at sea to check the entry of fishing trawlers in meeting zone
- Streamlining and regulating tourist flow to the nesting coasts

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Convention on International Trade in Endangered Species (CITES)

- It is an international agreement between governments to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
- It is legally binding but it does not take the place of national laws.
- The species covered by CITES are listed in three Appendices, according to the degree of protection they need.

Floating Treatment Wetland

Why in news?

Recently, Floating Treatment Wetland (FTW) on Neknampur Lake in Hyderabad was inaugurated on World Wetlands Day.

What are FTWs?

- FTWs are **buoyant structures** or rafts of **wetland vegetation** that are deployed in water bodies such as ponds and lakes with **permanent pool of water**.
- These plants are **perennial non-invasive emergent plants** which mimic the functions of natural wetlands.
- However, in contrast to the traditional wetlands the roots of the plants do not take root in soil however they **stay suspended in water column** in order to allow plants to **adjust to the water fluctuations** without any harm.
- Various plants grown on FTW are vetivers, canna, cattails, bulrush, citronella, hibiscus, fountain grass, flowering herbs, tulsi and ashwagandha.
- Significance –
  o Helps to purify the lake by **breaking down and consuming the organic matter** in water with the help of **micro-organisms growing in the plant root system** of FTW through microbial decomposition
  o Reduces the **biochemical oxygen demand (BOD)** of the lake
  o **Reduces the growth of algae** by restricting sun rays seeping into the lake
  o Improves the **biodiversity** of the lake
- The Neknampur plant, based on the **soil-less hydroponic technique**, has been recognised by **the India Book of Records** as the largest FTW in the country.

Wetlands in India

- *According to **Ramsar Convention, wetland** is defined as, "areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide **does not exceed 6 metres".***
- *World Wetland Day is observed every year on 2nd February. This day marks the adoption of **Ramsar Convention on Wetlands.** The theme of 2018 is **"Wetlands for a Sustainable Urban Future"***

Hydroponics

It is a subset of hydroculture, which means growing of plants in a soil less medium or in an aquatic based environment.

It uses minerals and nutrients present in solution to feed the plants in water without soil. Thus, plants grow only on sunlight and water.

Prime Minister's Research Fellowship Scheme

Why in News?

Cabinet recently decided to implement "Prime Minister's Fellowship Scheme".

About the Scheme

- It is a public-private partnership (PPP) between Science & Engineering Research Board (SERB), which is an autonomous body under the Department of Science and Technology (DST), Government of India, and Confederation of Indian Industry (CII).
- It aims to improve the quality of research by attracting the best talents across the country and reduce brain drain.
- Under the scheme around 1000 students who have completed B.Tech or integrated M.Tech or M.sc in Science and technology streams will be offered direct admission in PhD programme in the IITs/IISc with a fixed amount of fellowship.
- Apart from this, a research grant of Rs.2 lakhs will be provided to each of the Fellows for a period of 5 years to enable them to participate in international research conferences and present research papers.

Science & Engineering Research Board

- It is a **statutory body** established through an Act of Parliament.
- Supporting basic research in emerging areas of Science & Engineering are the primary mandate of the Board.
- The Board is vested with **both financial and administrative powers** to enable quicker decisions on research issues, greatly improving thereby our responsiveness to the genuine needs of the research scientists and the S&T system.

Other Schemes to promote research

- **INSPIRE-** It is to attract talents and motivate them for studying science from an early age and pursuing career in research and help to build the required critical human resource pool for strengthening and expanding the S & T and R & D base in the country.
- **Research Promotion Scheme-** It promotes research in identified thrust areas
- **E-Shodh Sindhu-** It aims to provide e-resources on technical education to 94 AICTE supported technical institutes.
- **Grant for Organising Conference-** It provides Financial Assistance to institutions for organizing Conference at National & International level in various fields of Technical Education.

Draft Rules For Compensatory Afforestation Act, 2016

Why in news?
Recently, Environment Ministry has notified the draft rules of the Compensatory Afforestation Act to expand India's forest cover.

Background
- Compensatory Afforestation Fund (CAF) Act came into force in 2016.
- Over Rs. 50,000 crore has been collected under CAMPA fund in lieu of forest land diverted to non-forest purposes such as industrial projects like mining.
- Currently State receives only 10% of funds to use for afforestation and forest conservation, as against the Act's promise of 90%.

Highlight of the rules
- **Allowed Activities**:
  - **80% of the accumulated funds** can be utilized by states for 12 listed activities which include protection of plantations and forests, pest and disease control in forest, forest fire prevention and control operations, improvement of wildlife habitat, relocation of villages from protected areas etc.
  - While remaining **20% will be used** to strengthen forest and wildlife related infrastructure, capacity building of the personnel of state forest departments and other associated agencies and organisations.
- **Prohibited activities**: Funds cannot be used for certain activities like payment of salary and travelling allowances to regular state forest department employees, undertaking foreign visits etc.
- **Accountability Framework**: Forest bureaucracy would be accountable for any lapse on the part of state in carrying out compensatory afforestation exercise in a time-bound manner.
  - **Usage of Interest accrued on the amount available in state fund**: 60% of it shall be spent for six activities for conservation and development of forest and wildlife while the 40% will be spent for the non-recurring and recurring expenditure of the state authority, with the approval of the steering committee of the said authority.
- **Consultation with gram sabha or Van Sanrakshan Samiti (VSS) or village forest committee:** while taking up afforestation or plantation projects in forest land under the control of forest department and being managed under a working plan with participation of local people
- **Managing national and state fund**: The National fund will be managed according to the provisions of Government Accounting Rule, 1990, and the General Financial Rules, 2017. The state fund will be managed according to provisions of the state financial rules or any such rules notified by the state or union territory government and as per the guidelines issued by the national authority.

Issues with compensatory afforestation
- **Violation of the Forest Rights Act (FRA) 2006**: Draft rules tend to bypass Gram Sabha through VSS, which is not a legal body, over lack of clarity over consultation mechanism. It also enables the forest bureaucracy to entrench its control over forests and subvert democratic forest governance established by the **FRA Act**, 2006 and **PESA Act**, 1996
- **Lack of monitoring mechanism for expenditure from funds:** despite findings of Comptroller and Auditor General in 2013 about massive misutilization of funds by the forest department.
- **Capacity building of state forest departments**: as utilisation of 90% of funds depend on it and they lack the planning and implementation capacity to carry out compensatory afforestation

- [ ] **Difficulty in procuring land**: as land is a limited resource, and is required for multiple purposes, such as agriculture, industry, etc. The problem is compounded by unclear land titles.
- [ ] **Low quality forest cover**: compensatory afforestation cannot make up for the ecological value lost by cutting the existing forests. Also, computing the appropriate NPV of a forest is a challenge.
- [ ] **Increase atrocities against tribals and forest dwellers**: as it create scope for illegal plantations by forest departments and the joint forest management committees.

Compensatory Afforestation Fund Act 2016

- It established National Compensatory Afforestation Fund (NCAF) under the **Public account of India** and State Compensatory Afforestation Funds under public accounts of states.
- These funds will receive payments for:
  - o compensatory afforestation,
  - o net present value of forest (NPV),
  - o Other project specific payments.

☐ The National Fund will receive 10% of these funds, and the

State Funds will receive the remaining 90%.

The funds will be non-lapsable and interest bearing by the rate decided by central government on a yearly basis.

The fund will be used for compensatory afforestation, additional compensatory afforestation, penal compensatory afforestation, net present value, catchment area treatment plan or any money for compliance of conditions stipulated by the Central Government while according approval under the provisions of the Forest (Conservation) Act, 1980

Act provides **statutory status** for two ad-hoc institution, namely;

- o **National** Compensatory Afforestation Fund Management and Planning Authority **(CAMPA)** for management and utilisation of NCAF.
- o State Compensatory Afforestation Fund Management and Planning Authority for utilisation of State Compensatory Afforestation Fund.
- o The act also seeks to provide for constitution of a multi- disciplinary monitoring group to monitor activities undertaken from these funds.
- The act also provides for annual audit of the accounts by the Comptroller and Auditor General.

Recently Forest Survey of India has taken an initiative namely, **e-green watch**, for online monitoring of various afforestation works being carried out by state forest departments under CAMPA.

Digital Therapeutics Or Digiceuticals

Why in news?
America's Food and Drug Administration (FDA) has given its approval to some digital therapeutics.

More about Digital therapeutics

- It can broadly be defined as a treatment or therapy that utilizes digital and often Internet-based health technologies to spur changes in patient behavior to treat a medical or psychological condition. It uses methods rooted in **cognitive behavioral therapy** to spur patients to make lifestyle changes.

- It is often used as a **preventive measure** for patients who are at risk of developing more serious conditions. For instance, a patient with prediabetes may be prescribed digital therapeutics as a method to change their diet and behavior.

It can also be used to treat patients with psychological and neurological disorders. For example, those with Alzheimer's disease or dementia can also receive cognitive behavioral therapy along with reminiscence therapy as a method for reducing confusion and anxiety.

Doubling Of Protected Areas

Why in news?
- ☐ India's environment ministry is considering doubling the number of protected areas such as national parks and wildlife sanctuaries.

Present status
- ☐ At present protected areas are 729 in number & cover 4.9% or 162,072 sq. km of India's geographical area.
- ☐ About 0.3% of EEZ (exclusive economic zone) is under Marine Protected Areas (MPA) in India.

Why needed?
- ☐ India's network of protected areas is far below the "Aichi Target".
- ☐ Protected areas are the last refuges of endangered wildlife. They also provide ecosystem services being river watersheds and sequestering carbon.
- ☐ Competing use of land will put more pressure on forests in future.
- ☐ To tackle climate change and Global warming effect. Also, increase in forest cover is declared under India's INDCs.

Way forward
- ☐ States such as Uttar Pradesh (2.4 %), Rajasthan (2.8 %), Jharkhand (2.7 %), West Bengal (3.2 %), Bihar (3.4 %), Madhya Pradesh (3.5 %), Tamil Nadu (4.1 %), which have contributed less than the national average to the network of projected area, may be requested to achieve the average national target of at least 5% of their geographical area under the four protected area categories.
- ☐ Some of the critical marine area within territorial water of India can be considered for declaring as sanctuaries whereas a large marine area can be covered under conservation reserve.

While India has done well in conserving some species like tiger, it needs to up its ante as far as Protected Area Network is concerned, where its neighbours like Bhutan and Nepal fare better than our 5% (of land under PA). However, a mere declaration is not sufficient, we need actual protection.

Protected Area Network in India: provided under Wildlife (Protection) Act, 1972
- **Sanctuary** is an area which is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance. It is declared for the purpose of protecting, propagating or developing wildlife or its environment. Certain rights to people living inside the Sanctuary could be permitted.
- **The National Park** is like that of a Sanctuary. However in a National Park, no rights are allowed.
- **Conservation Reserves** can be declared by the State Governments in any area owned by the Government, particularly the areas adjacent to National Parks and Sanctuaries and those areas which link one Protected Area with another. The rights of people living inside a Conservation Reserve are not affected.
- **Community Reserves** can be declared by the State Government in any private or community land, not comprised within a National Park, Sanctuary or a Conservation Reserve, where an individual or a community has volunteered to conserve wildlife and its habitat. The rights of people living inside a Community Reserve are not affected.

Aichi biodiversity targets
- They are a series of goals that were set in 2010 at a Conference of Parties to the **Convention on Biological Diversity** meeting for protection and conservation of biodiversity.
- **Target 11:** By 2020, at least 17% of terrestrial & inland water, and 10% of coastal & marine areas, are conserved through systems of protected areas and other effective area-based conservation measures.

Easy to PICK – "UPSC Monthly Magazine" **Feb - 2018**

Village Resource Centres

Why in news?
ISRO has established around 473 Village Resource Centres (VRCs) on a pilot basis, in association with selected NGOs, Trusts and State Government Departments.

What is Village Resource Centres (VRC)?
This is one of the unique initiatives that use Satellite Communication (SATCOM) network and Earth Observation (EO) satellite data to reach out to the villages to address the needs of the local people in villages itself.

Applications: VRCs provide wide varieties of services in rural areas:

- **Tele-medicine** concept connects the sick people in villages, through VSAT network, to the doctors, who located in cities/urban areas or the Super-speciality hospitals, for providing health services.

- The **Tele-education** uses SATCOM to provide a virtual classroom facility to far-flung villages or remote areas in the country and helps in imparting education to the needy.

- Advisories related to agriculture like crop pest and diseases, fertilizer/pesticides, organic farming, crop insurance etc.; live stock/poultry, career guidance to rural students,

- Skill development and vocational training etc., to the rural population.

Other areas of application include Panchayat planning, Weather information, Marketing information, Watershed Development, Drinking water etc.

Why important?

- Use of VRCs demonstrates the peaceful use of satellite technology for development of rural areas.

- Over 6500 programmes have been conducted by the VRCs so far addressing the areas like, Agriculture/horticulture development; Fisheries development; Live stock development; Water resources; Tele health care; Awareness programmes; Woman's empowerment; Supplementary education; Computer literacy; Micro credit; Micro finance; Skill development / vocational training for livelihood support etc.

Way forward
There is need to upscale the VRCs and link all the village Panchayats. This will help in efficient use of available resources at the villages and also reduce distress migration from villages due to lack of basic health, education and information asymmetry.

No Tribal To Be Evicted From Tiger Reserves

Why in news?

- The National Commission for Scheduled Tribes (NCST) has temporarily banned displacement of tribals from forest areas and critical tiger reserves to ensure tiger conservation does not infringe on tribal rights.

More on news

- The National Tiger Conservation Authority in March 2017 issued a circular which said forest dwelling tribals did not have any rights on their land, which fell in critical tiger reserves.
- Following this, NCST gave certain recommendations and also formed a **three-member committee** to study the issue
- NCST has also decided to send teams to various tiger reserves to assess the programmes being implemented by National Tiger Conservation Authority and concerned state governments for rehabilitation of Scheduled Tribes.

Details of NCST recommendation

- **Ensure tribal rights under the Forest Rights Act**: The tribals cannot be evicted from Tiger Reserves without their consent.
- **Revisiting rehabilitation policy**: It has **asked the environment ministry** for the following changes:
  o to increase the compensation amount from present Rs.10 lakh to Rs.20 lakh per family using CAMPA funds
  o Mandatorily providing 4 hectares of land to displaced family
  o No eviction of tribals from forest area until alternate land is provided
  o Completion of the entire rehabilitation and relocation exercise within three years

India State Of Forest Report 2017

Why in news?

- Recently, Ministry of Environment, Forest and Climate Change (MoEFCC) released the biennial India State of Forest Report (ISFR) 2017, prepared by Forest Survey of India (FSI).

Key findings

- **Forest cover:**
  - India is ranked 10th in the world, with 24.4% of land area under forest (21.53%) and tree cover. The target is to achieve 33% of area under forest cover.
  - There is an increase of 1% (8,021 sq km) in the total forest and tree cover of the country, compared to the previous assessment in 2015.
  - The maximum increase in forest cover has been observed in Very Dense Forest (VDF) followed by increase in forest cover in open forest (OF).
  - The agro-forestry and private forestry has also shown expansion. There is a jump from $42.77m^3$ in the 2011 assessment to $74.51m^3$ in timber production in 'Trees outside Forests' (TOF) category.

GREEN COVER

This time information of forest cover is covered for 633 districts in place of 589 districts.

Forests as % of Geographical area

Very Dense 2.99
Scrub 1.4
Open Forest 9.18
Non Forest 77.05
Forest Cover of India (in %)
Moderately Dense 9.38

(Canopy Density >70%)
(Canopy Density 40% to 70%)
(Canopy Density 10% to 40%)
0.0 43.5 86.9

Uttarakhand 71
Sikkim 82.31
Manipur 78.01

- **Forest cover in states:**
  - 15 states/UTs have above 33% of geographical area under forest cover. About 40% of country's forest cover is present in 9 large contiguous patches of the size of 10, 000 sq.km, or more.
  - 7 States/UTs have more than 75% forest cover: Mizoram, Lakshadweep, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Meghalaya and Manipur.
  - 8 States/UTs have forest cover between 33% to 75%: Tripura, Goa, Sikkim, Kerala, Uttarakhand, Dadra & Nagar Haveli, Chhattisgarh and Assam.
  - The three leading States with maximum Forest cover (in terms of area): Madhya Pradesh, Arunachal Pradesh and Chhattisgarh.
- States with highest Forest cover in terms of percentage geographical area: Lakshadweep (90.33%), Mizoram (86.27%) and Andaman & Nicobar Islands (81.73%)

- **Global trend:**
  - India has shown an increasing trend in the forest and tree cover, in comparison to the global trend of decreasing forest cover during the last decade.
  - As per the latest FAO report, India is placed 8th in the list of top ten nations reporting the greatest annual net gain in forest area.
- **Carbon stock:** There is an increase of 38 million tonnes in the carbon stock of India bringing it to total 7083 million tonnes. India's NDC goal is to create additional carbon sink of 2.5 to 3.0 billion tonnes of CO equivalent through additional forest and tree cover by 2030.
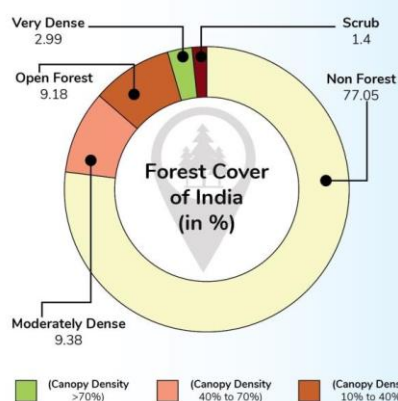 - **Forest fires:** In most of the years, maximum number of forest fires occurs in OF followed by Moderately Dense Forests (MDF). However, in 2012 and 2016 (severe fire years), the proportion of forest fires in MDF and VDF were higher compared to OF.
- **Mangrove**: Total mangrove forests have increased by 181sq kms. 7 out of the 12 mangrove states have shown an increase in mangrove cover and none of them show any negative change.
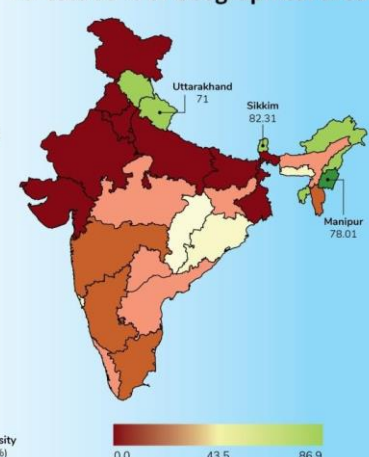- **Bamboo Cover**: The extent of bamboo-bearing area in country is estimated at

15.69 million ha. There has been an increase of 1.73 million ha in bamboo area. The Government has recently taken out bamboo from the tree category, where it is grown outside forest areas. This will encourage people to grow bamboo on private lands, thus, enhance the green cover and carbon stock of the country.

☐ **Water bodies inside forests -** Forests play a vital role in water conservation and improving water regime in area. The report observes that water bodies inside forest cover have increased by 2,647 sq kms during the last decade. Almost all the states have shown a positive change in water bodies.

TOP FIVE STATES

Maximum Forest Cover Increased
in sq km

Forest Cover Decreased
in sq km

Arunachal Pradesh
190

Meghalaya
116

Nagaland
450

Mizoram
531

Tripura
164

Telangana
565

Odisha
885

Karnataka
1,101

Andhra Pradesh
2,141

Kerala
1,043

FOREST FIRE

Year	Value
2012	40,528
2013	25,061
2014	26,797
2015	22,465
2016	33,664

The main reasons for decrease in forest cover of North Eastern states are shifting cultivation, rotational felling, other biotic pressures, diversion of forest lands for developmental activities, submergence of forest cover, agriculture expansion and natural disasters.

International Intellectual Property Index 2018

Why in news?
Recently, Global Innovation Policy Centre (GIPC) of US Chambers of Commerce had released the International Intellectual Property Index (IIPI).

About the Index

- It is an **annual Index** which examines a country's Intellectual Property (IP) framework across eight categories of indicators – patents, copyrights, trademarks, trade secrets and market access, enforcement, commercialisation of IP assets, systemic efficiencies and ratification of international treaties.

Major Findings of the IIPI 2018

- According to the report USA topped the list with 37.98 points with UK right behind at 37.97 and Sweden at

37.03 points.

- It has been noted in the IIPR index 2018, economies which implement moderate improvement in the IP environment see positive economic and societal outcomes ranging from access to financing and foreign direct investment to higher levels of economic value generation

International Intellectual Property Rights Index on India

- India has been ranked 44 out of 50 countries up from 43 out of 45 in 5th edition.

India's score has improved from 25% (8.75 out of 35) of total score in 5th edition to 30% (12.03 out of 40) in the sixth edition which is the highest improvement of any country measured.

Gift City Gets Unified Regulator

Context:

- The International Financial Service Centre (IFSC) at Gift City, Gujarat has received a major boost with the Finance Minister proposing a unified regulator for the special finance zone along with tax benefits for non- residents and non-corporate entities operating there.
- This assumes significance as various government agencies and regulators, including the Reserve Bank of India and Securities and Exchange Board of India (SEBI), have oversight on entities that operate in the zone.

Way ahead:

- The announcement of setting up of unified regulator for IFSC in India would help India achieve its full potential in the global financial markets. Globally, most of the financial centres host unified regulator in the same centre. This decision would help in establishing GIFT IFSC as a global financial hub.

What are the services an IFSC can provide?

- Fund-raising services for individuals, corporations and governments.
- Asset management and global portfolio diversification undertaken by pension funds, insurance companies and mutual funds.
- Wealth management.
- Global tax management and cross-border tax liability optimization, which provides a business opportunity for financial intermediaries, accountants and law firms.
- Global and regional corporate treasury management operations that involve fund-raising, liquidity investment and management and asset-liability matching.
- Risk management operations such as insurance and reinsurance.
- Merger and acquisition activities among trans-national corporations.

What is an IFSC?

- An IFSC caters to customers outside the jurisdiction of the domestic economy.
- Such centres deal with flows of finance, financial products and services across borders.
- London, New York and Singapore can be counted as global financial centres.
- Many emerging IFSCs around the world, such as Shanghai and Dubai, are aspiring to play a global role in the years to come.

Merger Of Psu Non-Life Insurers

Context:

- Finance minister Arun Jaitley had proposed a merger of these three PSU general insurers in the Union Budget on February 1. The proposed merger of three public sector insurance firms may be completed by early 2019.
- The three public sector general insurance companies to be merged are — National Insurance (NIC), Oriental Insurance (OIC) and United India Insurance (UII).

Purpose:

- There are a lot of operational advantages and savings that will accrue from this proposed merger. The trigger for central government to go for merger of three general insurers is mainly to boost up their solvency ratio and divest part of its holding in the market. Merger will also stop the unhealthy competition between the government-owned insurers. It is hoped that this merger will make companies stronger.

Concerns:

- There is also a concern that post merger, there will be unhealthy competition between two government- owned general insurers – New India Assurance and the new company that emerges out of the proposed merger. Also, it will be a big task to build the brand equity for a new entity in a highly competitive market.

Way forward:

Few experts are of the view that the government should go one step further and merge all the four public sector general insurers

CriSidEx

Context:
- CriSidEx, India's First MSE Sentiment Index, has been launched by CRISIL and SIDBI.

About CriSidEx:
- *What is it?* CriSidEx is a composite index based on a diffusion index of 8 parameters and measures MSE business sentiment on a scale of 0 (extremely negative) to 200 (extremely positive). CriSidEx will have 2 indices, one for the 'survey quarter' and another for the 'next quarter' once a trend emerges after few rounds of the survey, providing independent time series data.
- **Benefits**: The crucial benefit of CriSidEx is that its readings will flag potential headwinds and changes in production cycles and thus help improve market efficiencies. And by capturing the sentiment of exporters and importers, it will also offer actionable indicators on foreign trade.

Significance of MSME:
- MSME sector is backbone of the economy. It is one of the largest employer in the country and with the vast population where employment either in government or in the large industry itself has limited potential.
- This is one sector where people not only exhibit their entrepreneurial skills, become part of large value chains but also become job creators in the process. And that is the reason why a bulk of the jobs in manufacturing, trading have been created in this particular sector

Inverted Duty Structure

Context:

- The Union Budget has reinforced the correction of the inverted duty structure (IDS) which has adversely impacted manufacturing for decades.

Reforms:

- The Budget has raised customs duties significantly. The goods and services tax (GST), especially the IGST or Integrated GST component, has begun to erode the advantage that the IDS was giving to foreign exporters in Indian markets. Also, the Finance Minister, in Budget 2014, had announced the beginnings of a reversal of the IDS in electronics and has sustained that effort in subsequent Budgets.

What is Inverted duty structure?

- An IDS means higher duty on intermediate as opposed to final/finished goods, with the latter often enjoying concessional custom duty under some schemes.
- Inverted duty structure is a situation where import duty on finished goods is low compared to the import duty on raw materials that are used in the production of such finished goods.
- For example, suppose the tariff (import tax) on the import of tyres is 10% and the tariff on the imports of natural rubber which is used in the production of tyres is 20%; this is a case of inverted duty structure.

Concerns associated with IDS:

- When the import duty on raw materials is high, it will be more difficult to produce the concerned good domestically at a competitive price. Several industries depend on imported raw materials and components. High tax on the raw materials compels them to raise price. On the other hand, foreign finished goods will be coming at a reduced price because of low tax advantage. In conclusion, manufactured goods by the domestic industry becomes uncompetitive against imported finished goods.

INVERTED STRUCTURE

- Higher import duty on raw materials than the finished goods making import of finished goods cheaper
- Dehydrated culture media attracts a customs duty of 10% while the micro-organism attracts a duty of 30%
- It has a variety of industrial, pharmaceutical, biotech, food safety and life science applications
- Sea-weed attracts a duty of 10%, while the raw material Agar attracts a duty of 30%
- Solar modules attract nil import duty while the import duty on components ranges between 5-10%

- The disadvantage of the inverted duty structure increases with the increased use of imported raw materials. An inverted duty structure discourages domestic value addition.

Government Reboots eNAM

Context:

- In a bid to engage more farmers on the electronic National Agriculture Market (eNAM) platform, the government has unveiled mobile payment facility BHIM, and other features in regional languages as well.

- The eNAM has been strengthened with features like MIS dashboard for better analysis, BHIM and other mobile payment facilities, enhanced features on mobile app such as gate entry and payment via mobiles, integration of farmers database and e-learning module.

About eNAM:

- It is an online platform with a physical market or mandi at the backend.

- It is an instrument to create a national network of physical mandis which can be accessed online.

- It seeks to leverage the physical infrastructure of mandis through an online trading portal, enabling buyers situated even outside the state to participate in trading at the local level.

Jal Marg Vikas Project

Context:

- Inland Waterways Authority of India (IWAI) has inked pact with the World Bank for Jal Marg Vikas Project to enhance navigation on National Waterway-1.

About Jal Marg Vikas Project:

- *What is it?*
  - The Jal Marg Vikas Project seeks to facilitate plying of vessels with capacity of 1,500-2,000 tonnes in the Haldia- Varanasi stretch of the River Ganga.
  - The major works being taken up under JMVP are development of fairway, Multi-Modal Terminals, strengthening of river navigation system, conservancy works, modern River Information System (RIS), Digital Global Positioning System (DGPS), night navigation facilities, modern methods of channel marking etc.
- *Implementation:* The JMVP, which is expected to be completed by March, 2023, is being implemented with the financial and technical support of the World Bank. The project will enable commercial navigation of vessels with the capacity of 1500-2,000 tons on NW-I.

Benefits of this project: Alternative mode of transport that will be environment friendly and cost effective. The project will contribute in bringing down the logistics cost in the country. Mammoth Infrastructure development like multi-modal and inter-modal terminals, Roll on – Roll off (Ro-Ro) facilities, ferry services, navigation aids. Socio-economic impetus; huge employment generation.

Environmental challenges:

- Though the project is ambitious in its intent, it does not account for the monetary value of the environmental costs that are imposed upon society. The river Ganga meanders across the landscape and spreads over its riverbed making pools and shallow areas. Fish and turtles lay eggs in these shallow areas. But thanks to dredging, which is already being done in the Ganga under the NW-1 project, the river is now channelised in one deep channel. The river no longer meanders and no longer has pools and shallow areas, destroying the habitat of fish and turtles. The stretch of the Ganga near Varanasi has been declared as a turtle sanctuary and studies in other countries indicate that large numbers get hit by fast-moving tourist boats because turtles move slowly.

- The stretch of the Ganga near Bhagalpur has been declared a wildlife sanctuary for the conservation of the Ganges Dolphin. This animal does not have eyes. It navigates and catches its prey by the sound made by the movement of other aquatic creatures. The plying of large barges will create a high level of sound and make it difficult for them to survive. The paint on ships and barges will also pollute the water. The carbon dioxide released by the ships will be is absorbed more by the water because of its proximity and this too pollutes the river.

What can be done to minimize impacts in sensitive zones?

- A ban on dredging in protected habitat areas. In other areas that are known to be the habitat of valued aquatic species, no dredging should be allowed in the breeding and spawning seasons. The speed of barges travelling along the protected areas of the sanctuaries should be restricted to 5km per hour. All vessels plying on the Ganga should be fitted with noise control and animal exclusion devices so that aquatic life is not unduly disturbed. All vessels will also have to comply with `zero discharge' standards to prevent solid or liquid waste from flowing into the river and affecting its biodiversity.

Way forward:
It is time to ensure that the small direct benefits from cheaper transportation shall not have large environmental costs.

Facts for Prelims:
NW 1: Ganga-Bhagirathi-Hooghly river system from Allahabad to Haldia was declared as National Waterway No.1. States covered under NW-1: States: Uttar Pradesh, Bihar, Jharkhand, West Bengal.

"Development Of Solar Cities" Scheme

Context:

- The Ministry of New and Renewable Energy under its scheme "Development of Solar Cities" has approved/sanctioned 60 Cities including 13 Pilot and 5 Model Cities up to 12th Five-year Plan period.

About Development of Solar Cities scheme:

- The Ministry of New and Renewable Energy is implementing a programme on 'Development of Solar Cities' which aims to reduce a minimum of 10% of the projected demand of conventional energy of the city through renewable energy installations and energy efficiency measures. Sixty Cities are proposed to be developed as Solar Cities during the Eleventh Plan period including four Model Solar Cities and 10 Pilot Solar Cities. The Master plan for each Solar City is being prepared to assess and utilize various renewable sources including Solar, Wind, Municipal Waste etc.
- The criteria set by the ministry for the identification of cities include a city having population between 50,000 to 50 lakh (with relaxation given to special category states including northeast states), initiatives and regulatory measures already taken along with a high level of commitment in promoting energy efficiency and renewable energy.

Need for Solar Cities:

- Urbanization and economic development are leading to a rapid rise in energy demand in urban areas in our country leading to enhanced Green House Gas (GHG) emissions. Many cities around the world are setting targets and introducing polices for promoting renewable energy and reducing GHG emissions and the countries like Australia and USA are developing the solar cities.
- Several Indian cities and towns are experiencing rapid growth in the peak electricity demand. The local governments and the electricity utilities are finding it difficult to cope with this rapid rise in demand and as a result most of the cities/towns are facing electricity shortages. In this context, the "Development of Solar Cities" programme is designed to support/encourage Urban Local Bodies to prepare a Road Map to guide their cities in becoming 'renewable energy cities' or 'solar cities'.

The Solar City programme aims:

- To enable and empower Urban Local Governments to address energy challenges at City – level.
- To provide a framework and support to prepare a Master Plan including assessment of current energy situation, future demand and action plans.

Solar City – India

- The "Development of Solar Cities" programme by the Ministry of New and Renewable Energy (MNRE) GOI is an immense opportunity for contributing towards a sustainable India in the coming years.
- As part of the 11th Five year plan ,demand forecasting for the years 2013 and 2018, this programme is a crucial step towards supporting Indian cities for the development of renewable energy and energy efficiency projects and curbing conventional energy demand by 10% in the next five years.

- To build capacity in the Urban Local Bodies and create awareness among all sections of civil society.
- To involve various stakeholders in the planning process.
- To oversee the implementation of sustainable energy options through public – private partnerships

Hyperloop Between Mumbai And Pune

Context:

- The Virgin Group has signed an "intent agreement" with Maharashtra to build a hyperloop transportation system between Mumbai and Pune, which aims to reduce the travel time between the two mega cities to 20 minutes from the three hours at present. The hyperloop route will link central Pune with the megapolis as well as the Navi Mumbai international airport.

What is hyperloop transportation system?

- It is a transportation system where a pod-like vehicle is propelled through a near-vacuum tube connecting cities at speeds matching that of an aircraft.
- The hyperloop concept is a brainchild of Tesla founder Elon Musk. US-based Hyperloop Transport Technology (HTT) claimed it costs $40 million per kilometre to build a hyperloop system while building a high-speed train line would cost almost twice. The hyperloop system is being designed to transport passengers and freight.

How it operates?

- In hyperloop transporation, custom-designed capsules or pods are expected to zip smoothly through continuous steel tubes which are held at partial vacuum. The pod which sandwiches the passenger compartment between an air compressor upfront and a battery compartment in the rear is supported by air caster skis at the bottom.
- The skis float on a thin layer of air provided under high pressure, eliminating rolling resistance and allowing for movement of the pods at high speeds. These capsules are expected to be driverless with estimated speeds of 1,000 km/h. Linear induction motors that are placed along the tube control the speed of the pod. Electronically-assisted acceleration and braking determines the speed of the capsule.

The Problems Plaguing the Hyperloop:

- Constructing a tube hundreds of kilometers long would be an engineering marvel in of itself. However, introducing a tube hundreds of kilometers long that operates at a near perfect vacuum which can support the force of capsule weighing thousands of kilograms as it travels hundreds of kilometers an hour is nothing

short of sci-fi fantasy.

- Small scale experiments reveal the fundamentals of the idea are sound. Although, in the real world, there are too many factors that cannot be accounted for with a small scale design. In the real world, there are tens of thousands of kilograms of atmospheric pressure which threatens to crush any vacuum chamber.

- There is also the problem with thermal expansion which threatens to buckle any large structure without proper thermal expansion capabilities. The Hyperloop would also be stupendously expensive. There are many unavoidable problems facing the Hyperloop that threaten the structural integrity, and every human life on board. The problems can be addressed, but at a great cost.

Delhi Mumbai Industrial Corridor (DMIC)

Context:

- The Delhi Mumbai Industrial Corridor (DMIC), a mega infrastructure project with an estimated investment of $100 billion, has attracted interest from companies based out of Canada, the U.S., Singapore and Taiwan.

About DMIC: What is it?

- Delhi-Mumbai Industrial Corridor is a mega infra-structure project of USD 90 billion with the financial & technical aids from Japan, covering an overall length of 1483 KMs between the political capital and the business capital of India, i.e. Delhi and Mumbai. A MoU in this regard was signed in 2006.

Components:

- The project would include six mega investment regions of 200 square kilometres each and will run through six states Delhi, Western Uttar Pradesh, Southern Haryana, Eastern Rajasthan, Eastern Gujarat, and Western Maharashtra.

Aim:

The project aims to develop an environmentally sustainable, long lasting and technological advanced infrastructure utilizing cutting age Japanese technologies and to create world class manufacturing and investment destinations in this region.
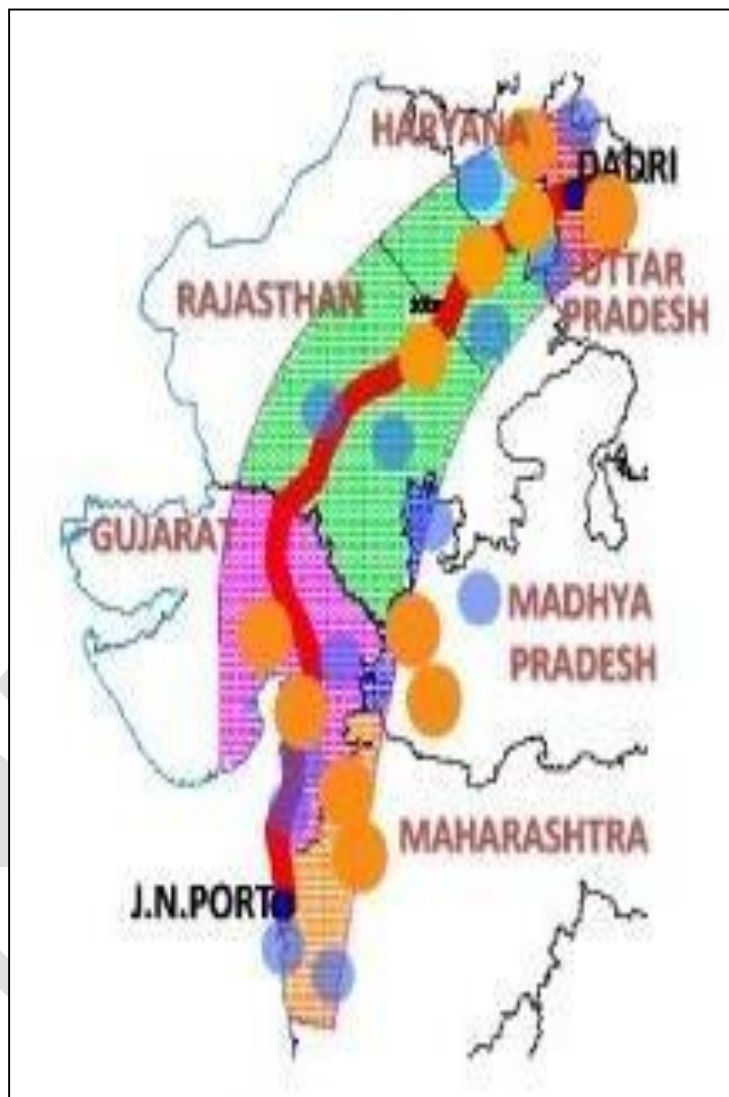
Strategic Petroleum Reserve (SPR) Programme

Context: India has invited Saudi participation in Indian Strategic Petroleum Reserve (SPR) Programme.

About SPR programme:

- To ensure energy security, the Government of India had decided to set up 5 million metric tons (MMT) of strategic crude oil storages at three locations namely, **Visakhapatnam**, **Mangalore** and **Padur** (near Udupi). These strategic storages would be in addition to the existing storages of crude oil and petroleum products with the oil companies and would serve as a cushion during any external supply disruptions.

- In the 2017-18 budget, it was announced that two more such caverns will be set up **Chandikhole** in Jajpur district of **Odisha** and **Bikaner** in **Rajasthan** as part of the second phase.

- The construction of the Strategic Crude Oil Storage facilities is being managed by Indian Strategic Petroleum Reserves Limited (ISPRL), a Special Purpose Vehicle, which is a wholly owned subsidiary of Oil Industry Development Board (OIDB) under the Ministry of Petroleum & Natural Gas

Need for strategic oil reserves:

- In 1990, as the Gulf war engulfed West Asia, India was in the throes of a major energy crisis. By all accounts India's oil reserves at the time were adequate for only three days. While India managed to avert the crisis then, the threat of energy disruption continues to present a real danger even today.

- It is unlikely that India's energy needs will dramatically move away from fossil fuels in the near future. Over 80% of these fuels come from imports, a majority of which is sourced from West Asia. This is a major strategic risk and poses a massive financial drain for an embattled economy and its growing current account deficit.

- To address energy insecurity, the Atal Bihari Vajpayee government mooted the concept of strategic petroleum reserves in

1998. Today, with India consuming upwards of four million barrels of crude every day (January 2015 figures), the case for creating such reserves grows stronger.

Facts for Prelims:

- In January 2016, India signed a deal with the United Arab Emirates that allows the Gulf OPEC country to fill half of the underground crude oil storage facility of ISPRL at Mangalore.

- Therefore, the UAE's Abu Dhabi National Oil Company will store about 6 million barrels of oil at Mangalore.

Easy to PICK – "UPSC Monthly Magazine" Feb - 2018
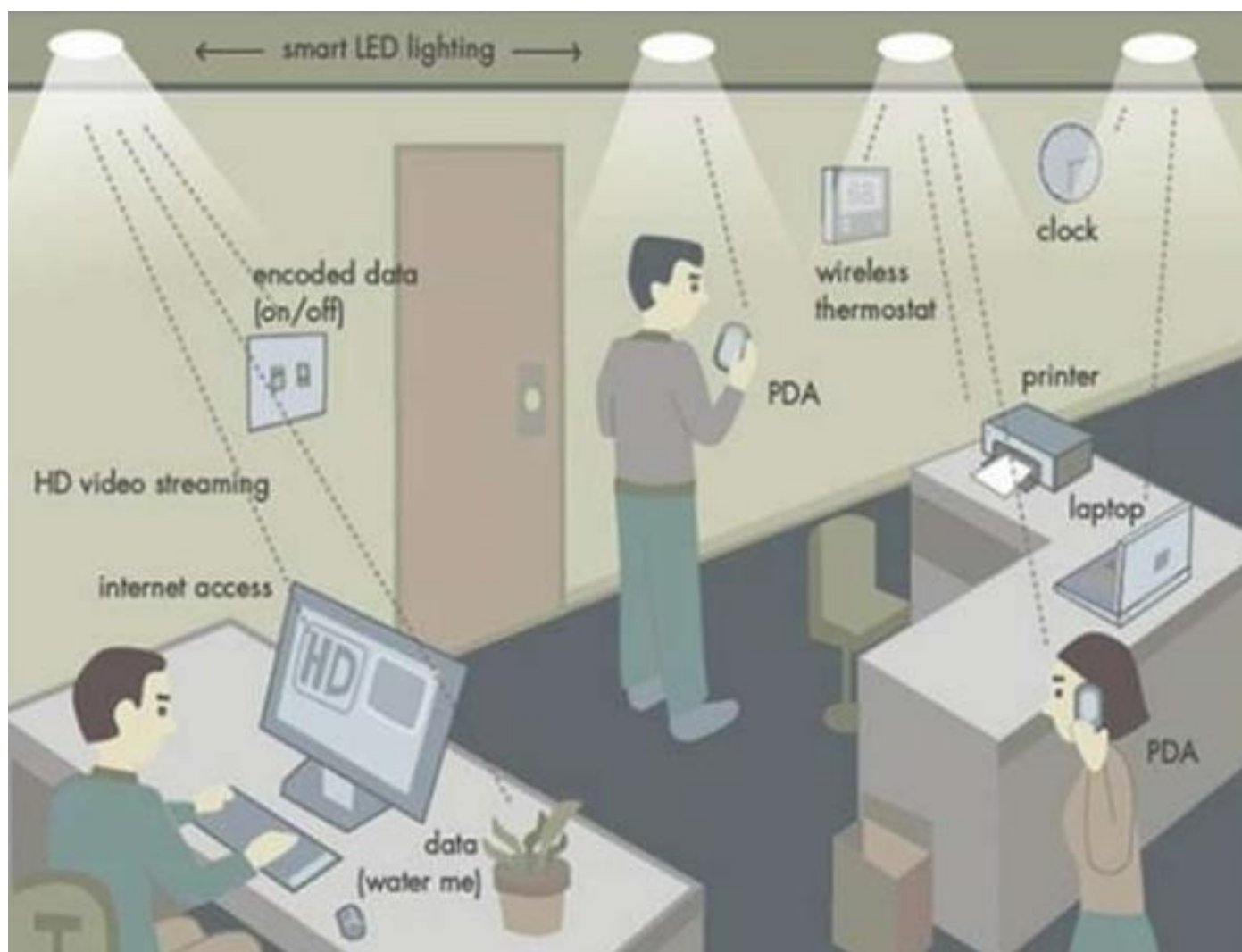
LiFi TECHNOLOGY

Context:

- In a recent pilot project, the ministry of electronics and IT successfully tested a technology called LiFi (Light Fidelity), which uses LED bulbs and light spectrum to transmit data at speeds as high as 10 GB per second over a 1-km radius. Indications are strong that it will be soon launched in India on a commercial basis.
- .The idea is to connect difficult terrains of the country that can't be reached by fiber but have access to electricity. The technology can be used to connect hospitals where regular internet signals interfere with certain equipment as well as to provide underwater connectivity

What is Li-Fi?

- Li-Fi, or light fidelity, invented by German physicist and professor Harald Haas, is a wireless technology that makes use of visible light in place of radio waves to transmit data at terabits per second speeds—more than 100 times the speed of Wi-Fi.

How it works?

- Li-Fi is a Visible Light Communications (VLC) system. This means that it accommodates a photo-detector to receive light signals and a signal processing element to convert the data into 'stream-able' content. Unlike Wi-Fi, which uses radio waves, Li-Fi runs on

visible light.

- Here, data is fed into an LED light bulb (with signal processing technology), it then sends data (embedded in its beam) at rapid speeds to the photo-detector (photodiode).The tiny changes in the rapid dimming of LED bulbs is then converted by the 'receiver' into electrical signal. The signal is then converted back into a binary data stream that the user would recognise as web, video and audio applications that run on internet enables devices.
- An LED lightbulb is a semi-conductor light source meaning that the constant current of electricity supplied to an LED lightbulb can be dipped and dimmed, up and down at extremely high speeds, without being visible to the human eye.

Advantages:

- Li-Fi could make a huge impact on the internet of things too, with data transferred at much higher levels with even more devices able to connect to one another.
- Li-Fi offers great promise to overcome the existing limitations of Wi-Fi by providing for data-heavy communication in short ranges.
- Due to its shorter range, Li-Fi is more secure than Wi-Fi.
- Since it does not pollute, it can be called a green technology for device-to-device communication in the Internet of Things (IoT).
- Li-Fi systems consume less power.

Limitations of Li-Fi:

- As visual light can't pass through opaque objects and needs line of sight for communication, its range will remain very restricted to start with. In order to enjoy full connectivity, more capable LED bulbs will need to be placed at various places.
- Li-Fi requires the lightbulb is on at all times to provide connectivity, meaning that the lights will need to be on during the day.
- Li-Fi is likely to face interference from external light sources, such as sunlight and bulbs, and obstructions in the path of transmission, and hence may cause interruptions in communication.
- Also, initially, there will be high installation costs of visual light communication systems as an add-on to lighting systems.

GLOBAL IP INDEX

Context:
- The US Chamber of Commerce's intellectual property rights advocacy arm, Global Innovation Policy Centre, has released Intellectual Property Index.
- The index ranks economies based on 40 unique indicators that benchmark activity critical to innovation development surrounding patent, trademark, copyright, and trade secrets protection.
- The US tops the list with 37.98 points, followed by United Kingdom (37.97) and Sweden (37.03).
- New Delhi, however, gives no formal recognition to such rankings and has in the past even dismissed criticism heaped on its IPR regime by the US government as part of its annual US 301 report.

Performance of India:
- India has improved its performance both in relative and absolute terms. The index showed that India ranked 44th of 50 economies — a jump from 43rd of 45 economies one year ago — improving its performance both in relative and absolute terms.
- For the first time, India has broken free of the bottom 10% of economies measured, and its score represents the largest percentage improvement of any country measured. This is further evidence of a country on the move.
- India improved its score as it passed guidelines to strengthen the patentability environment for technological innovations, improved the protection of well-known marks, and initiated IP awareness and coordination programs, thereby implementing some tenets of the 2016 National IPR Policy.

Way ahead:
- In what is otherwise a very challenging environment for IP rights holders, India has demonstrated a long- standing and clear commitment to increasing awareness of the importance of IP rights and respect for creators and innovators.
- However, India has a long way to go.

Top 10

International IP Index, sixth edition

Ranking	Country	Score
1	United States	37.98
2	United Kingdom	37.97
3	Sweden	37.03
4	France	36.74
5	Germany	36.54
6	Ireland	35.98
7	Netherlands	35.33
8	Japan	34.58
9	Singapore	33.45
10	Switzerland	33.42

Source: US CHAMBER OF COMMERCE, GLOBAL INNOVATION POLICY CENTER STRAITS TIMES GRAPHICS

Among key areas of weaknesses are limited framework for protection of life sciences IP; patentability requirements outside international standards; lengthy pre-grant opposition proceedings; previously used compulsory licensing for commercial and nonemergency situations; limited participation in international IP treaties and no participation in international PPH (Patent Prosecution Highway) tracks.

- Additional, meaningful reforms are still needed to incentivize domestic innovation, attract foreign investors, and improve access to innovation.
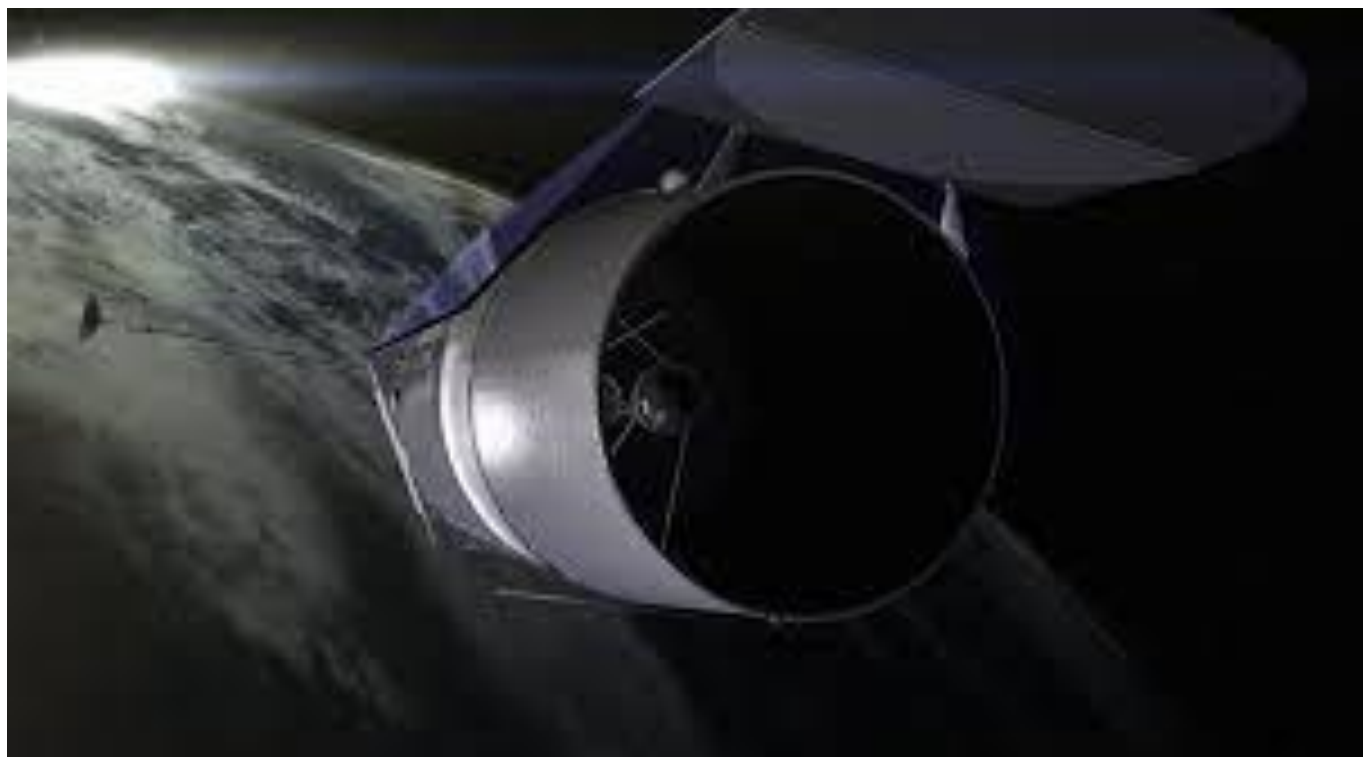
WFIRST

Context:

- The White House budget proposal has called for the cancellation of the Wide Field Infrared Survey Telescope (WFIRST), a move that could be interpreted as a warning to the mission's leaders to rein in the program's expanding costs. But if the cancellation goes through, some scientists worry it could hurt the international standing of the U.S. astrophysics community.
- WFIRST was tentatively scheduled to launch in the mid-2020s, to become NASA's next "flagship mission," a classification applied to large-scale missions with broad science objectives.
- Other NASA flagship missions include the Hubble Space Telescope, the Chandra X-Ray Telescope, and the upcoming James Webb Space Telescope.

About WFIRST:

- WFIRST, the **Wide Field InfraRed Survey Telescope**, is a NASA observatory designed to settle essential questions in the areas of dark energy, exoplanets, and infrared astrophysics.
- The telescope has a primary mirror that is 2.4 meters in diameter (7.9 feet), and is the same size as the Hubble Space Telescope's primary mirror.
- WFIRST will have two instruments, the **Wide Field Instrument**, and the **Coronagraph Instrument**.
- The **Wide Field Instrument** will have a field of view that is 100 times greater than the Hubble infrared instrument, capturing more of the sky with less observing time.
- As the primary instrument, the Wide Field Instrument will measure light from a billion galaxies over the course of the mission lifetime.
- It will perform a microlensing survey of the inner Milky Way to find ~2,600 exoplanets.
- The **Coronagraph Instrument** will perform high contrast **imaging and spectroscopy** of dozens of individual nearby exoplanets.

National Science Day 2018

Context:
- National Science Day is celebrated on 28th of February every year in order to commemorate the invention of the Raman Effect in India by the Indian physicist, Sir Chandrasekhara Venkata Raman on the same day in the year 1928.
- For his great success in the field of science in India, Chandrasekhara Venkata Raman was awarded and honored with the Nobel Prize in the Physics in the year 1930.

*Theme:* "Science and Technology for a Sustainable Future".

What is Raman effect?
- The Raman Effect is a change in the wavelength of light that occurs when a light beam is deflected by molecules.
- When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam.
- Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman effect.

Raman's experiment:
- The violet light of the solar spectrum is isolated with a violet filter and passed through the liquid sample. Most of the light emerging from the liquid sample is the same color as the incident violet beam: the so-called Rayleigh scattered light (the scattering of light by particles in a medium, without change in wavelength.
- It accounts, for example, for the blue colour of the sky, since blue light is scattered slightly more efficiently than red).
- However, Raman, along with K S Krishnan was able to show that some of the scattered light was a different color, which they could isolate by using a green filter placed between the observer and the

sample.
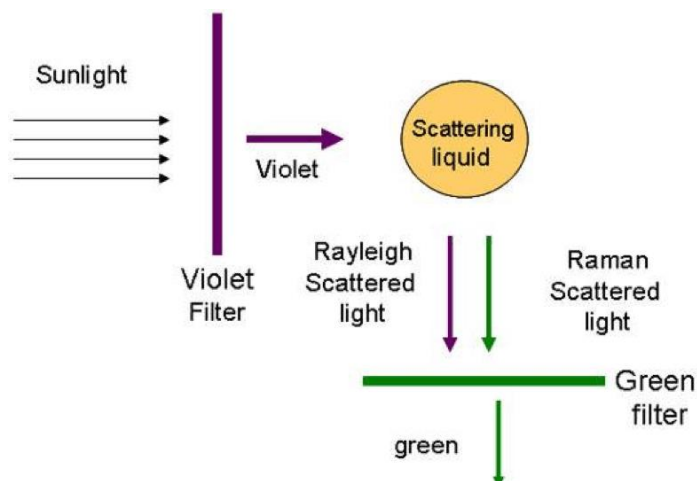
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Govt Drops The Idea Of An India EV Policy

Context:
- The government has decided against formulating an electric vehicle (EV) policy in an apparent U-turn from its position so far, providing a breather to many carmakers that are unprepared for an abrupt shift to the clean-fuel technology.
- The existing FAME (incentive) scheme may continue for another two years.

Background:
- The government's decision to have an EV policy had created uncertainty in the automobile industry for the past year, although several companies had outlined their strategies for EVs or lobbied the government to drop the idea.

About FAME India scheme:

- **What is it?**

With an aim to promote eco-friendly vehicles, the government had launched the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME-India) scheme in 2015.

- **Aim:**

The FAME India Scheme is aimed at incentivising all vehicle segments, including two-wheelers, three wheeler auto, passenger four-wheeler vehicle, light commercial vehicles and buses. The scheme covers hybrid and electric technologies like a strong hybrid, plug-in hybrid and battery electric vehicles.

- **Facts:**

FAME India – Faster Adoption and Manufacturing of Hybrid and Electric vehicles in India – is a part of the National Electric Mobility Mission Plan. The scheme envisages Rs 795 crore support in the first two fiscals. It is being administered by the Heavy Industries Ministry.

Way ahead:
- Electric vehicles (EVs) seem to be gaining in prominence as part of the renewable energy zeitgeist.

- However, mainstreaming electric vehicles will require an overhaul of the country's energy and transport infrastructure. For example, EV charging stations will have to be set up on a war footing, and electricity generation will have to improve significantly even as its piggybacks on the push for solar energy.
- EV technology (especially the battery) will have to become much cheaper before it can perform well in a price-sensitive market like India.

India's First 'Highway Capacity Manual' Released

- 'Indo-HCM', country's first ever Highway Capacity Manual (HCM) has been released.

About Indo- HCM:

- The manual has been developed by CSIR-CRRI on the basis of an extensive, country-wide study of the traffic characteristics on different categories of roads like single lane, two-lane, multi-lane urban roads, inter- urban highways and expressways and the associated intersections on these roads.
- It will guide road engineers and policy makers about road expansion.
- The manual lays down guidelines for when and how to expand or manage different types of roads and their intersections and the level of services to be put in place.
- It has been developed based on the unique nature and diversity of traffic on Indian roads.

Benefits of this manual:

- India was among the very few South Asian countries which did not have the practice of having a country specific HCAP manual. The US and Danish authorities had pioneered the practice of having a key document to set highway construction standards all across their countries. This manual would now help in the scientific planning and expansion of road infrastructure in the country.

Way ahead:

- Highways are crucial for country's development and there is a need to follow successful best practices in the world regarding construction of roads and highways.
- The government should popularise the use of new material like fly-ash, plastic, oil slag and municipal waste in road construction.
- Researchers and engineers should also expedite formulation of a good design for safe and effective speed breakers for Indian roads.

ESPRESSO INSTRUMENT

Context:

- The search for Earth-like planets just got a major upgrade: The European Southern Observatory's **Very Large Telescope (VLT)** in **Chile** successfully integrated the light from all four of its 8.2-meter (27 feet) unit telescopes into a new instrument, making VLT the optical telescope with the largest collecting area in the world. The instrument is called **ESPRESSO** (Echelle Spectrograph for Rocky Exoplanet and Stable Spectroscopic Observations).
- The upgrade will make it easier for scientists to use the observatory to search for faint, rocky planets around distant stars.
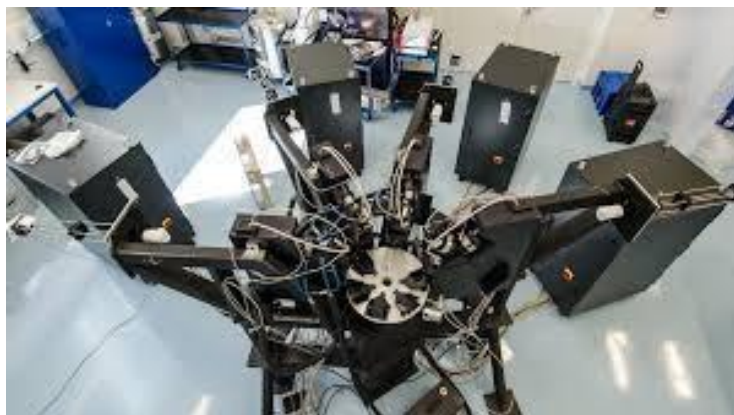
How it operates?

- Each of the VLT units sends its light to the instrument using mirrors, prisms and lenses.
- ESPRESSO can use the light from either all four telescopes at once or just one individual telescope. That design is intended to provide more flexibility in observing time.

About ESPRESSO:

- ESPRESSO is designed to exploit the light-gathering power of the individual telescopes. It has the light-collecting power of a 16-meter (52 feet) telescope. Light gathering is important for telescopes because, as they receive more photons of light, fainter objects appear brighter. Bigger telescopes typically see distant objects such as galaxies more easily because they have more light- gathering power.
- ESPRESSO has a second major scientific goal besides looking for Earth-like worlds: to seek variability in fundamental physics constants. ESPRESSO will observe faint and faraway quasars to uncover more about basic physics, and the combined light of the four telescopes will greatly benefit it in its observations.

Easy to PICK – "UPSC Monthly Magazine" **Feb - 2018**
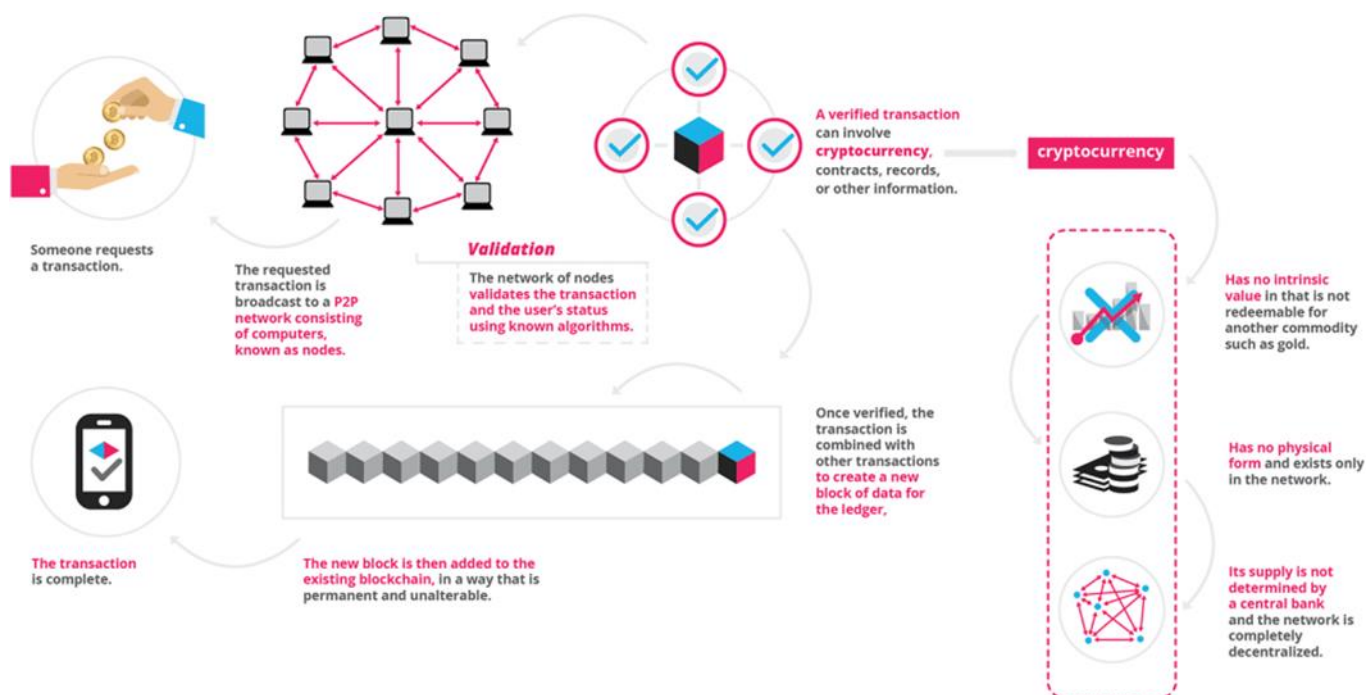
Blockchain Tech

Context:

According to experts, the adoption of blockchain by India's banks could help avert frauds such as the one at Punjab National Bank as the disaggregated and transparent nature of the technology, which updates information across all users simultaneously, would have ensured that various officials would have instantly been alerted to the creation of the letters of undertaking (LoUs).

What is Blockchain?

- Blockchain is the digital and decentralized ledger that records transactions without the need for a financial intermediary, which in most cases is a bank.
- A blockchain is an anonymous online ledger that uses data structure to simplify the way we transact.
- Blockchain allows users to manipulate the ledger in a secure way without the help of a third party.

How it works?

- Blockchain enables two entities that do not know each other to agree that something is true without the need of a third party.
- As opposed to writing entries into a single sheet of paper, a blockchain is a distributed database that takes a number of inputs and places them into a block.
- Each block is then 'chained' to the next block using a cryptographic signature. This allows blockchains to be used as a ledger which is accessible by anyone with permission to do so.
- If everyone in the process is pre-selected, the ledger is termed 'permissioned'. If the process is open to the whole world, the ledger is called unpermissioned.

Benefits of blockchain technology:

- A blockchain is anonymous, protecting the identities of the users. This makes blockchain a more secure way to carry out transactions.
- The algorithm used in blockchain reduces the dependence on people to verify the transactions.

Concerns associated:

- Blockchain is still a (relatively) new technology and is not without its problems.
- For a start, there are ongoing concerns about privacy in the settlement and storage of securities – blockchain providers are working hard to address.
- Banks are also at threat with blockchain,

since more and more firms (using their IT service providers from India and elsewhere) will build systems that can create and exchange 'blocks' with one another completely legally, without ever having to use the banks as a financial intermediary.

Way ahead:

- Blockchain is not a panacea for all issues facing the banking system today.
- However, blockchain is an ideal technology to ensure proof of integrity to the data and reduce incidents of fraud.

GS - IV

ENCOUNTER KILLINGS

Fake and staged encounters are becoming very common. Even suspected smugglers of exotic timbers have been killed in the past in the name of self-defence. Recently, Uttar Pradesh is seeing increase in encounter culture even after Supreme Court extensive guidelines on deaths in police encounters. National Human Rights Commission has also issued notices against such encounters in UP.

Various reasons are cited which encourages encounter killing such as India's slow judicial system and underlying corruption, ease in getting bails, criminals running operations from within the jail. But, it reflects poorly on international rankings, for eg: low rankings in World Justice Project Index, 'rule of law' index etc.

The extra judicial killings involve several ethical issues:

- **Affects public trust** – as encounters affect credibility of the criminal justice system & violates Rule of Law. It also shows lack of trust of public functionaries in the system itself
- **Abuse of power by state authorities** – rather they should act as the protector of personal liberty, dignity and basic human rights.
- **Casual police attitude -** towards investigation, towards rule of law and life itself.
- **Sense of injustice**– due to not following the due process of law and giving the right to fair trial. It also gives birth to residual anger which leads to more instances of law and order cases in future by the close kin/relatives.
- **Self-interest not public interest** – At times, such steps are taken for personal enrichment or political expediency
- **Affects accountability and transparency** - as required by police authorities towards legislature, judiciary, media and public
- **Against Human Right to life -** as guaranteed by Article 21 of the constitution. It also violates the right to live with dignity
- **Affects social fabric** – as young generations are imprinted with wrong

ideals of expediency over professionalism. Vigilantism can take roots taking justification from the incidents of encounter killings by state.
- **Give legitimacy to criminal elements** – These encounters also become a breeding ground for recruitment by criminal elements because when the state acts with impunity, it erases the sharp line that separates the state from criminals
- **Lack of compassion and sympathy** – The encounter culture shows lack of compassion towards human life.
- **Personal vendetta** – At times, uniformed men tend to resort to extrajudicial killing to wreak vengeance on militants or extremists targeting their colleagues and civilians.
- **Unlawful means** – The means to achieve an end is very important. Law and order can't be preserved by breaking the law by the law protectors themselves.

Although ethics of public safety and societal law and order sometimes require swift neutralization of habitual offenders of violent crimes to save the society from further nuisance. Retributive theory also calls for punishment of offenders for criminal behavior to restore the peaceful balance in society. Besides, a large number of policemen have also lost their lives in such encounters. Therefore, we need to take a balanced view of factors.

However, the rule of law says that every human being, including the worst criminal is entitled to human rights and due process. Police being a mighty force cannot always resort to the theory of self-defence especially when the opposite party is a minor group with fewer weapons. Also, utilitarian philosophies believe in rehabilitation as it looks forward and believes in social benefits.

Thus, there is a need to end this culture of impunity and restructure police training, to infuse basic human values. The primordial value is that it is the responsibility of every organ of the State to function within the four corners of constitutional responsibility. That is the ultimate rule of law.

ACID ATTACK

India has the highest number of acid attacks in the world. The number of acid attack continues to rise despite stricter laws and punishments. As per NCRB data, 187 acid attacks and 202 attempts of such attack took place across India in 2016.

There are various ethical issues associated with such heinous act:

- **Wrong Intention**: It is a premeditated act of violence with an intention of permanently disfiguring the victim.
- **Cultural inequalities between gender**: Acid violence is a gender-based violence as most of the victims are women
- **Lack of apathy in government:** Seriousness is not seen on the part of government in handling the issue as regulation on the sale of acid and policy for welfare of the victims is not being implemented seriously.
- **Lifelong psychological trauma:** because their facial deformities and appearance reduces their chance of

employment, disturbs the balance of victim's family,

- **Dominating attitude of male:** society displays a peculiar mindset of male entitlement and power. Many

affects their involvement with society etc.

Thus, it is seen as a measure of controlling women's behavior. Also, attacker intends to destroy what society considers to be one of the most valuable traits of a woman—her beauty.

- **Lack of basic values:** It shows the failure of society and education system to teach compassion and gender equality.

Government regulates sale of weapon. However, acid which is being used as a weapon against women on a regular basis is not attracting much attention. Meanwhile, perpetrators are fearlessly using it to restore their hollow pride and honour to the extent of grave injustice towards victims. It can be equated with gender terrorism.

India can learn from neighbor Bangladesh where stricter laws such as death penalty for committing an acid attack and stricter regulation of sale of acid, has seen decline in such attacks. In addition to better laws and stricter implementation, timely compensation, specialised medical care and rehabilitation should be provided to the victim.

PT POINTERS

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Floating Island To Come Up On Neknampur Lake

- A floating island of 2,500 sq.ft with about 3,500 wetland plants will be introduced on the Neknampur Lake in Hyderabad on the eve of **World Wetland Day on February 2nd**. It will be introduced by Dhruvansh, a voluntary organisation working for protection of water bodies.
- The 'island platform' has been designed using styrofoam, bamboo, gunny bags, coir and so on and could bear the weight of four persons, according to Madhulika Choudhary of the body.

BHASHA SAMMAN

- *Context*: Magahi writer Shesh Anand Madhukar, who has been working extensively for the development of the language, has been honoured with this year's Sahitya Akademi Bhasha Samman award. He is the second writer of Magahi language to be given the award.
- **About Bhasha Samman**: Sahitya Akademi currently honours writers from 24 regional languages, but Bhasha Samman identifies those languages which are equally spoken in different parts of the country. The award is an attempt to make the writers of other languages feel equally important. The award comprises a Rs 1 lakh cheque and a memento.
- **About Magahi language**: The Magahi language, also known as Magadhi, is a language spoken in Bihar- Jharkhand region of eastern India. Magadhi Prakrit was the ancestor of Magadh, from which the latter's name derives.
It is believed to be the language spoken by Gautama Buddha. It was the official language of the Mauryan court, in which the edicts of Ashoka were composed.

Geospatial World Excellence Award

- *Context*: Odisha has bagged Geospatial World Excellence Award-2018 for successful IT application on tracking of mineral production, dispatch and value accrued on real time basis through its i3MS website based software.
- **Geospatial World Excellence Awards:** Initiated in 2007, Geospatial World Awards is an internationally- acclaimed private award recognizing exemplary innovations and practices in the global geospatial industry. With the ceremony taking place at Geospatial World Forum every year, Geospatial World Awards have recognized over 150+ individuals and organizations till date.

New Wildlife Sanctuary At Ghodazari

- The Maharashtra government has approved Ghodazari in Chandrapur district as a new wildlife sanctuary in the state. The sanctuary, in the North East of Tadoba, will include 159 sq km of Brahmapuri forest.

SELA PASS

- *Context*: Finance Minister Arun Jaitley today announced the government's plan to build a tunnel through the Sela Pass located at an elevation of 13,700 ft which will ensure faster movement of troops in Tawang, a strategically- located town in Arunachal Pradesh bordering China.

- **About the Sela pass**: The Sela pass is located between the Tawang and West Kameng districts of Arunachal Pradesh and considered crucial from strategic perspective. Sela Lake, near the summit of the pass, is one of approximately 101 lakes in the area that are sacred in Tibetan Buddhism.

Task Force Set Up To Study AI Application In Military

- The Department of Defence Production has constituted a task force headed by Tata Sons Chairman N Chandrasekaran to study use of artificial intelligence.

- **Significance of AI**: Experts believe that future progress of artificial intelligence (AI) has potential to have transformative impact on national security. It is also seen that AI is essentially a dual use technology. While it can fuel technology driven economic growth, it also has potential to provide military superiority.

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Cochin Shipyard Signs Mou With Russian Firm

- The State-owned Cochin Shipyard and the United Shipbuilding Corporation (USC) of Russia have signed a Memorandum of Understanding (MoU) to collaborate and engage in design, development, and execution of contemporary, state-of-the-art vessels for inland and coastal waterways.
- USC, a joint stock company, is the largest shipbuilding holding in Russia incorporating around 40 enterprises including shipyards with more than 300 years experience which have been key contributors to the growth of inland waterways in Russia.

'Exam Warriors'

- *What is it?*

It is a book authored by Prime Minister Narendra Modi for students facing exams. It aims to get through to students across the country on the threshold of examinations, and hopes to help them thread the needle with ease.

"Green Good Deeds" Campaign

What is it? The campaign has been launched by the Environment Ministry to sensitise the people and students, in particular, about climate change and global warming. The objective of the campaign is to restore and return the clean and green environment to the next generation.

Under-19 World Cup

- *Context*: India defeated Australia by 8 wickets to be crowned 2018 Under-19 World Cup Champions.

Facts: India has become the only side in history to lift the coveted title for a record fourth time.

SHERIN'S LAW

- *What is it?* It is a new proposed law in the US state of Texas.
- The Law' would make it a felony to leave a child at home alone. The Law would also require that any adult who witnesses or has personal knowledge of an abused child report it to authorities within 48 hours.
- **Background**: The law is drafted in Sherin Mathews' name. The 3-year-old was found dead last October with her adoptive parents facing charges in her death.

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Vinay Sheel Oberoi Committee

- **Defence Minister** Nirmala Sitharaman has constituted a 13-member advisory committee to **monitor and expedite capital acquisition projects for the modernisation of the armed forces**. The committee is headed by Vinay Sheel Oberoi.
- The panel will suggest measures to improve the capital acquisition process. The committee will undertake an independent review and check the status of ongoing critical projects worth more than 500 crore rupees.

Tawang Gets Rhododendron Park

- In a bid to conserve the dwindling rhododendron species of Tawang, a rhododendron park is being established in Tawang, Arunachal Pradesh. Over 30 species of rhododendron will be planted and conserved in the park. It will also have a modern nursery, an information centre, resting sheds, and a parking facility, among other things.
- **About Rhododendron**: Found in varied habitats from subtropical forest to alpine shrubs, rhododendrons range from dwarf shrubs to large trees. The smallest are R. nivale and R. pumilum at just 10 to 50 cm while the tallest species, R. arboretum grows over 40 metres tall.
- *Where they are found?* The cold, moist slopes and deep valleys of the eastern Himalayas form a conducive habitat for the luxuriant growth of Rhododendron species. Arunachal Pradesh is home to the highest number with 119 taxa (74 species, 21 sub species and 24 varieties) of the Rhododendron. The small State of Sikkim is home to 42 taxa (25 species, 11 sub-species and six varieties) while 10 taxa are found in Manipur, four in Mizoram and 11 in Nagaland.

The World Rankings 2018

- TIMES Higher Education (THE) World University Ranking has released the rankings for educational institutes in Asia and only two Indian institutes have made their way to the top 50 Asian institutes. A total of 17 institutes from India have made their way to the top 200 Asian Universities. Though representation of India has increased in the list, several of the universities have fallen down the rankings in comparison to last year.
- The ranks as released by the THE World University Ranking are:
  - o Indian Institute of Science (IISc) – world rank 29.
  - o Indian Institute of Technology (IIT), Bombay – world rank 44.
  - o Indian Institute of Technology (IIT), Kharagpur – world rank 60.
  - o Indian Institute of Technology (IIT), Roorkee – world rank 65.
  - o Indian Institute of Technology (IIT), Kanpur – world rank 81.
  - o Indian Institute of Technology (IIT), Delhi – world rank 86.

"Swachh Bharat Sanitation Park" Inaugurated In Delhi

- The **Ministry of Drinking Water and Sanitation**, in collaboration with the Environmental Sanitation Institute and Tata Trusts, has developed a Sanitation Park in New Delhi.
- Objective is to create awareness on various safe technological options.
- The Park demonstrates various options pertaining to toilet technologies and solid and liquid waste management technologies, with a brief description of these technologies.
- The Park also displays information regarding various interventions undertaken under the Swachh Bharat Mission, capturing the success stories and impact created under the Mission across the country.

21st Indian Birding Fair

- The 21st Indian Birding Fair is happening at the Man Sagar Lake, Rajasthan. This year, this fair is dedicated to the **White Naped Tit bird**, which is quite rare in Jaipur and are at the verge of extinction.
- **About White Naped Tit bird**: White-Naped is a robust, strongly patterned, mainly black-and-white coloured bird with yellow in the flanks and sides of the breast. The bird is found in **Udaipur** and in some regions of **Kutch** as well. It is considered **vulnerable to extinction** because of the scarcity of suitable habitats.

Janadriyah Festival

- **Context**: **Saudi** is celebrating the annual Janadriyah festival. **India** is this year's guest of honor.
- **About Janadriyah festival**: Janadriyah is the annual national heritage and culture festival named after the village on the northern outskirts of Riyadh. The festival encourages Saudis to celebrate their heritage and to bolster cultural exchange.

Manipur Gets First Woman Chief Justice

- Justice Abhilasha Kumari, Judge of the High Court of Gujarat was recently sworn in as the Chief Justice of the High Court of Manipur.
- **She is the** first woman Chief Justice of the High Court of Manipur**.**

Three New Eel Species Found In Bay Of Bengal

- Scientists have discovered three new species of eel along the northern Bay of Bengal coast in the past few months. Eels are found mostly at the **bottom of rivers** and **seas**. Across the world about 1,000 species of eels have been identified. In India, the number is around 125.
- **Key facts**: Dark brown with white dots on the dorsal side, Gymnothorax pseudotile was discovered at the Digha coast of the **Bay of Bengal**. The other two species, Gymnothorax visakhaensis (uniformly brown) and Enchelycore propinqua (reddish brown body mottled with irregular creamy white spots), were discovered from the Visakhapatnam coast of the Bay of Bengal. Enchelycore propinqua is the smallest of them measuring less than a foot.

World Radio Day

- *Context*: World Radio Day is celebrated on February 13th.
- *Theme of World Radio Day 2018*: Under the ambit of theme "Radio and Sports" are three sub-themes for World Radio Day 2018. They are: Diversity in Sports Coverage, Gender Equality in Sports Coverage and Peace and Development through Sports Coverage.

History of World Radio Day: The idea of World Radio Day was first proposed by Spain's Radio Academy in 2010. The following year, in 2011, UNESCO declared the first World Radio Day. February 13 was chosen to mark World Radio Day, coinciding with the anniversary of the United Nations Radio, the United Nation's international broadcasting service which was established on February 13, 1946. World Radio Day was first celebrated in 2012, following its declaration by the UNESCO General Conference. It was subsequently adopted as an International Day by the United Nations General Assembly.

Maldives Rejects India's Milan Naval Exercise Invite

- Maldives has declined New Delhi's invitation to participate in the biennial naval exercise Milan.
- Milan: The biennial naval exercise, Milan, is being organised at the Andaman and Nicobar Islands. The aim of the exercise is to expand regional cooperation and combat unlawful activities in critical sea lanes.

4G NETWORK ON MOON IN 2019

Vodafone is planning to create the first 4G network on the moon by 2019. The company has appointed Nokia as its technology partner for the 4G network. This will be the first privately-funded moon landing mission.

Viral Load Testing

- *Context*: The government has launched a scheme to provide free of cost viral load testing, at least once a year, for 1.2 million people who are living with HIV/AIDS (PLHIV) and are on treatment.
- **What is it?** The viral load is used to monitor the effectiveness of Antiretroviral Therapy (ART) over time. It measures the amount of HIV genetic material (RNA) in the blood and reports how many copies of the virus are present.

September 22 As Rhino Day

- *Context*: The Assam government will be observing September 22 as Rhino Day to generate public awareness on protection of the one-horned pachyderm.
- **Key facts**: The greater one-horned rhinoceros is the largest of the three Asian rhinos and, together with African white rhinos, is the largest of all rhino species. It is listed as Vulnerable on the IUCN Red List. With at least half of the total population, India's Kaziranga National Park remains the key reserve for this species.

UIDAI'S Blue Coloured New Aadhaar Card

- *Context*: UIDAI has introduced a blue coloured '**Baal Aadhaar'** card for children below the age of 5 years. Blue coloured Aadhaar data does not include biometric information like fingerprints and iris scan.
- Once the child crosses the age of five, biometrics should be updated.
- Aadhaar, the 12-digit unique identity number issued by the Unique Identification Authority of India (UIDAI), is a compulsory identity card.
- It is **not mandatory** for children under 5 to get an Aadhaar card.

However, it is needed for attending educational programmes overseas and availing of government scholarships.

SRIJAN

- *What is it?* 'SRIJAN' (**Station Rejuvenation Initiative through Joint ActioN**) is an idea competition for 635 Station Development on Indian Railways. It has been launched at MyGov portal.
- The winner for logo competition will get cash prize of Rs 75,000/-and for tagline also will get Rs 75,000/-.

Drypetes Kalamii

- *What is it?* It is a new plant species identified by scientists from the Botanical Survey of India from two protected National Parks in West Bengal.

Key facts:

- Named Drypetes kalamii, it is a small shrub found to be shorter version of its close relative Drypetes ellisii.
- Standing just 1 metre tall, the newly described plant is *unisexual in nature*, which means they have separate male and female plants.
- By following the IUCN (International Union for Conservation of Nature) rules, the scientists have provisionally assessed *the plant to be "Critically Endangered"*.
- The new species is found in wet, shaded areas of subtropical moist semi-evergreen forests, at a height ranging 50-100 metres.
- With pale yellow flowers in clusters and bright orange to red fruits, *the plant is exclusive to the two national parks-Jaldapara and Buxa National Parks*.

'DHANUSH' Ballistic Missile

- *Context*: Nuclear-capable 'Dhanush' ballistic missile was recently test fired.
- **Key facts**:
  - ➢ It is a surface-to-surface missile. It has a strike range of 350 km.
  - ➢ It is a naval variant of the indigenously-developed 'Prithvi' missile.
  - ➢ It is capable of carrying a payload of 500 kg and hitting both land and sea-based targets.
  - ➢ The single-stage, liquid-propelled 'Dhanush', has already been inducted into the defence services.
  - ➢ It is one of the five missiles developed by the Defence Research and Development Organisation (DRDO) under the Integrated Guided Missile Development Programme (IGMDP).

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5ᵀᴴ International Data Science Summit

- *Context*: 5th international data science summit was recently held in **New Delhi**.
- The conference was attended by around 130 delegates from Corporate Officers and executives involved in strategy, Government Policy Planners, Academic institutions, Electrical utilities, Researchers and Developers along with Standards Development Organizations.
- **Organizer**: Bureau of Indian Standards (BIS), the National Standards Body of India, in association with Data Science Foundation organized the summit.

National Integration Tours

- *Context*: As part of the Indian Army's ongoing outreach programme to foster the spirit of National Integration across the entire swathe of the country, a tour for students from Manipur is being organised.

About:

- National Integration Tours are educational and motivational tours for youth of North Eastern States and J&K, with an aim to provide an insight into the rich heritage of the country as well as various developmental and industry initiatives that are underway.
- This initiative will expose them to various career options and enable them to interact with renowned personalities.

UP Cabinet Approves 'One District, One Product' Scheme

- *Context*: The Uttar Pradesh Cabinet has approved 'one district, one product' scheme to promote products indigenous to every district.

Details:

- ODOP is aimed at giving a major push to traditional industries synonymous with the respective districts of the state.
- 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.

RBS HIRES 'DIGITAL HUMAN' CORA ON PROBATION

- *Context*: NatWest, a bank in UK, has developed a new "digital human" prototype called Cora to have conversations with customers and help them out with banking queries.
- **About Cora:** The digital teller answers simple questions on getting a mortgage or what to do if a customer loses their card. The AI-driven personality can answer more than 200 banking queries.

ALL-WOMEN RAILWAY STATION IN JAIPUR'S GANDHINAGAR A FIRST FOR RAJASTHAN

- *Context*: Gandhi Nagar railway station in Jaipur has now become India's first and only major railway station run fully by women – from ticket checker to station manager.
- It is the country's first all Women non suburban railway Station.

YH MALEGAM COMMITTEE

- *Context*: The Reserve Bank of India (RBI) has constituted an expert committee under the chairmanship of Y H Malegam.
- *What for?* To look into the entire gamut of issues relating to classification of bad loans, rising incidents of frauds and effectiveness of audits.

PRITHVI-II

- *Context*: Nuclear-capable medium range surface to surface missile Prithvi-II was successfully test-fired recently off the Odisha coast.

Key facts:
- Prithvi-II, which has a strike range of **350 km**, is capable of carrying 500-1,000 kg of warheads and is thrusted by liquid propulsion twin engines.
- Prithvi is India's first indigenously-built ballistic missile. It is one of the five missiles being developed under the country's Integrated Guided Missile Development Programme.

India To Host World Environment Day 2018

- *Context*: India is the global host of 2018 World Environment Day which will take place on June 5, 2018.
- **Theme**: "Beat Plastic Pollution".
- **Background**: World Environment Day is a UN Environment-led global event, the single largest celebration of our environment each year, which takes place on June 5 and is celebrated by thousands of communities worldwide. Since it began in 1972, it has grown to become a global platform for public outreach that is widely celebrated across the globe.

Mizoram To Get First Regional Agricultural Centre With Israeli Collaboration

- *Context*: A regional centre for agriculture has been set up with Israeli collaboration in Mizoram — the first of its kind in the northeast region. The centre has been set up to exclusively process citrus fruits.
- **Background**: There are 22 such centres operational in India, including in Haryana, Gujarat, Madhya Pradesh, Rajasthan and Punjab. The first such centre was established in 2008 in Haryana.

Saras

- *Context*: The indigenous light transport aircraft (LTA) Saras PT1N recently completed the second of the proposed 20 test flights.
  What is Saras?
- SARAS PT1N is first Indian multi-purpose civilian aircraft in light transport aircraft category.
- It is an indigenous aircraft developed by the National Aeronautics Laboratories (NAL), which is overseen by the Council of Scientific & Industrial Research (CSIR).

Saudi Arabia Allows Women To Open Their Business Without Male Consent

- *Context*: Women in Saudi Arabia have been given the go-ahead to start businesses without the permission of a male guardian.
- In the past women needed a guardian's approval and had to visit a notary to document the founding of a company.

SCI-TECH OSCAR AWARD

- *Context*: Vikas Sathaye, a Pune-born person has been honoured with the Scientific and Engineering Academy Award at the recently held Oscars Scientific and Technical Awards 2018 at Beverly Hills in Los Angeles, California. Sathaye and his team received the award for his contribution towards conceptualisation, designing, engineering, and the implementation of the 'Shotover K1 Camera System'.
- **About Shotover K1 Camera System**: The Shotover K1 Camera System is a camera mount that is used in aerial filming. The camera mount gets attached to the base of a helicopter, which carries the camera and lens. The primary function of the camera mount is to eliminate any vibration from reaching the camera, thus ensuring a steady footage.
- *About the Awards*: The Academy's Scientific and Technical Awards honor the men, women and companies whose discoveries and innovations have contributed in significant and lasting ways to motion pictures.

THEATRE OLYMPICS

- *Context*: India is hosting the 8th Edition of Theatre Olympics 'The Biggest Theatre Celebration of the World'.
- *What?* The Theatre Olympics was established in 1993 in Delphi, Greece, as the first international theatre festival. With the tagline 'Crossing Millennia', this is an initiative to connect the cultural past with the present and future, bringing the richness and diversity of theatre heritage to the experiments and research of contemporary theatre. The first country to host the Theatre Olympics was Greece in 1995.
- *Who?* The Theatre Olympics, being held in India for the first time, is being organised by National School of Drama, under the aegis of Ministry of Culture.

National Banana Festival 2018

- *What and where?* National Banana Festival (NBF) 2018 is being held at Kalliyoor, Thiruvananthapuram, Kerala. The festival plays host to a buyer-seller meet, training programmes, documentary screenings, photography contest etc. The festival also includes a national seminar, exhibition, training programmes, farmers' meet and a host of other activities.

Who? The festival is organised by Centre for Innovation in Science and Social action (CISSA) in partnership with Kalliyoor Grama Panchayat and a host of National and State organisations.

First Large Scale Co2-Injected Project In Asia

- *Context*: Oil and Natural Gas Corporation (ONGC) plans to introduce carbon dioxide injection in its Gandhar field to recover an extra 20 million barrels of crude oil under the enhanced oil recovery (EOR) programme which is being undertaken to improve India's energy security.
- While the technology is a proven concept in the West specially the US and Canada, ONGC's project would be the first large scale CO2-injected project in Asia.

Venezuela, Libya Lose Un Vote For Third Time In 3 Years

- *Context*: Venezuela and Libya have been suspended from voting in the U.N. General Assembly for the third time in three years because of millions of dollars in unpaid dues to the world body.
- **Background**: Venezuela must pay a minimum of USD 25,200,296 to restore its voting rights and Libya must pay at least USD 6,594,842. Venezuela is mired in an economic and political crisis and Libya has two rival governments, each backed by an array of militias.

Delhi Hosts India's First Radio Festival

- India's first radio festival was recently held in Delhi. The festival was organised by the International Association of Women in Radio and Television, in collaboration with UNESCO. The event touched on the 2018's theme of World Radio Day – sports and radio – and traced the journey of creativity, music and social changes on the radio.

- **About IAWRT**: IAWRT is a global organization formed by professional women working in electronic and allied media with a mission to strengthen initiatives towards ensuring women's views and values are integral part of programming and to advance the impact of women in media. IAWRT organizes conferences, implements projects undertakes activities collaborates with and media organizations. It is in consultative status with the United Nations Economic and Social Council (ECOSOC). IAWRT is managed by international board, which oversees funding initiatives for a number of local chapters and member activities.

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India's Umang App, Aadhaar Win Awards At World Government Summit

- India's Aadhaar programme was recognised as the world's largest biometric enabled identification programme at the recently concluded World Government Summit 2018 in Dubai.
- **Umang app** was named winner of the Best M-Government Service Award for the Accessible Government category. The application provides users a unified platform that combines government departments and services, facilitating transactions for citizens.

India Pharma 2018 And India Medical Device 2018

- and India Medical Device 2018 – has begun at Bengaluru. The event is being organized by Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers, in collaboration with Federation of Indian Chambers of Commerce and Industry (FICCI).
- **Theme of the event**: Themed around 'Affordable, Quality Healthcare'.

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Ramalingaswami Re-Entry Fellowship Programme

- *Context*: Department of Biotechnology had recently organized a conclave meeting to celebrate the achievements and revisit the journey of the Ramalingaswami Re-entry Fellowship Programme over the years. The 8th Conclave was organized by National Institute of Plant Genome Research (NIPGR).

- **About the Programme**: The Ramalingaswami Re-entry Fellowship was conceived in the year 2006-07 with the idea of encouraging scientists (Indian Nationals) working outside the country and would like to return to the home country to pursue their research interests in Modern Biology, Biotechnology, Life Sciences and other related areas. The principal aim of the scheme is to improve the country's human resource capacity in life sciences, modern biology and biotechnology research – both in terms of development, translation and diffusion by means of attracting young scientists settled abroad.

Indira Gandhi Canal

- *Context*: Rajasthan Government has signed a new loan agreement with the **New Development Bank** for restructuring of Indira Gandhi Canal. The restructuring and repairing of Indira Gandhi Canal and its distributaries will help solve the problems of loss of water and water-locking in the agricultural fields. It will also ensure the supply of irrigation water to the farmers at the tail-ends of the Indira Gandhi Canal Project.
- **About Indira Gandhi Canal**: The Indira Gandhi Canal is one of the largest canal projects in India. It starts from the Harike Barrage at **Harike**, a few kilometers below the confluence of the **Satluj** and **Beas** rivers in the Indian state of **Punjab** and terminates in irrigation facilities in the **Thar Desert** in the north west of Rajasthan state. Previously known as the Rajasthan Canal.

SOYUZ ROCKET LAUNCHES CARGO FREIGHTER TO INTERNATIONAL SPACE STATION

- *Context*: A Russian Soyuz rocket has launched the cargo ship Progress 69 toward the International Space Station.
- **Progress 69** is packed with food, science gear and other vital supplies for the six-person Expedition 54 crew on the International Space Station.

International Conference For Reconstruction Of Iraq

- The Kuwaiti capital is hosting the second day of an international conference aimed at raising funds for reconstructing Iraq. It will bring together a number of economically powerful countries, as well as regional and international organizations on contributions to rebuild Iraq after many years of war and conflicts.

- The conference will also touch on several developments and vital aspects pertaining to Iraq, including the participation of the private sector in the reconstruction process. The World Bank, as a major contributor to the event, will provide the required investment guarantees for private companies and institutions to participate in the development of Iraq.

NTPC To Supply 300 Mw Power To Bangladesh

- *Context*: State-run power giant NTPC's arm NVVN has emerged as the lowest bidder for supply of 300 MW power to Bangladesh for 15 years at an estimated tariff of Rs 3.42 per unit. The company is expecting a revenue of Rs 900 crore every year for supplying 300 MW under a tender floated by Bangladesh Power Development Board (BPDB). At present, India exports approximately 600 MW electricity to Bangladesh.

- India already has power grid links with Bhutan, Nepal and Bangladesh, and is building power projects in the three countries. It also plans to develop power transmission links with Myanmar and Sri Lanka.

Mumbai 12th Richest City In The World

- *Context*: Mumbai is placed at 12th position in New World Wealth's list of top 15 wealthiest cities globally. Mumbai, also features among the top 10 cities in terms of billionaire population. The city is home to 28 billionaires, individuals with $1 billion or more in net assets.
- **Top performers**: The list of 15 wealthiest cities was topped by New York with a total wealth of $3 trillion. London ranked second in the list with $2.7 trillion, followed by Tokyo ($2.5 trillion), and San Francisco Bay area ($2.3 trillion).

First Hindu Temple Project In Abu Dhabi

- *Context*: Prime Minister Narendra Modi recently officially launched the foundation stone-laying ceremony for the first Hindu temple in the capital of the UAE, home to over three million people of Indian origin.
- *Key facts*: Swaminarayan temple of the Bochasanwasi Shri Akshar Purushottam Swaminarayan Sanstha, the first Hindu temple in Abu Dhabi will come up on 55,000 square metres of land. The temple will be hand- carved by Indian temple artisans and assembled in the UAE. It will be completed by 2020, and open to people of all religious backgrounds. It will be the first traditional Hindu stone temple in the Middle East.