

GENERAL STUDIES-1

INDIAN CULTURE

WORLD CITIES CULTURE FORUM

Why in news?

Mumbai is set to be the newest member and the first Indian city on the World Cities Culture Forum (WCCF), a platform for cities to share their culture.

Significance

The WCCF enables the policy makers of member cities to share research and intelligence, while exploring the vital role of culture in prosperity.

- Through its leadership exchange program, the city's policy makers will be able to share ideas, technology, challenges and access cultures and arts.

WCCF:

The forum, which began in 2012 with eight members, is a network of 32 key cities today, including London, Hong Kong, Amsterdam, Cape Town, Dakar, Edinburgh, Lisbon, San Francisco, Shanghai, Singapore, Toronto and many others.

KUTHIYOTTAM RITUAL

Why in news?

The Kerala State Commission for the Protection of Child Rights has registered a suo motu case in connection with the Kuthiyottam ritual. The commission said it would examine if the ritual, reportedly involving piercing children's sides with a hook, violated child rights in any manner.

Kuthiyottam ritual

The Kuthiyottam ritual is usually performed every year during the Pongala festival at the Attukal Bhagavathy Temple in Thiruvananthapuram, Kerala.

The Attukal Pongala festival is the largest congregation of women for a festival in the world. Pongala, which means 'to boil over', is a ritual in which women prepare a pudding made from rice, jaggery, coconut and plantains cooked together, and offer it to the goddess. The ritual can only be performed by women.

26th Feb to 7th Mar

Controversy

Nearly 1,000 young boys undertake a seven-day penance before Pongal day. These boys are said to represent the wounded soldiers of the goddess. The boys have to observe strict discipline and stay inside the temple for seven days. The rigours include sleeping on the floor, strict diet restrictions, and bathing three times a day. They also have to prostrate 1,008 times before the deity. The ritual also reportedly involves piercing the child's side with a small hook and knotting a thread through it to symbolise their bond with the Goddess.

Page | 2

INDIA BY THE NILE FESTIVAL

Why in news?

Sixth edition of the India by the Nile (IBN) festival 2018 is being held in Cairo, Egypt.

Details

The annual festival showcases a range of Indian cultural output, including contemporary and classical music, dance, puppet theatre, visual arts, food and yoga.

- It is the biggest foreign festival in Egypt and encourages artistic collaborations between the two countries.
- This year, the festival will also bring two new events, a fashion show and screening of the Indian movies.
- The festival is organised by the Embassy of India in Egypt and the Maulana Azad Centre for Indian Culture in collaboration with entertainment company Teamwork Arts.

SOCIAL ISSUES AND INDIAN SOCIETY

SEX RATIO ON DECLINE

The SRB is the number of girls born for every 1,000 boys.

Concern

A recent report from the NITI Aayog said sex ratio at birth (SRB) nationwide had dropped from 906 in 2012-2014 to 900 in 2013-2015. In all, 17 of 21 large Indian States saw a drop in the SRB, with Gujarat performing the worst, declining 53 points. Also, newer data from India's Sample Registration System show the SRB fell even further in 2014-2016, from 900 to 898.

A unique case for India

26th Feb to 7th Mar

The number of girls born is naturally lower than the number of boys, and demographers speculate that this may be nature's way of offsetting the higher risk that men have of dying — male babies are biologically weaker than females, and men have historically seen higher mortality rates owing to risk-taking behaviour and participation in wars.

This evens out the sex ratio of a population as it grows older. But India is a special case. Its SRB is far lower than 952 because of the preference for the male child. This means we are killing girl children in the womb. As on today, around 63 million girls are estimated to be 'missing' in India because of such actions.

Why does it matter?

Low SRBs starting from the Seventies have led to large numbers of "surplus men" today in countries like India and China. There are concerns that skewed sex ratios lead to more violence against both men and women, as well as human-trafficking. In India, some villages in Haryana and Punjab have such poor sex ratios that men "import" brides from other States. This is often accompanied by the exploitation of these brides.

Performance of PC- PNDT:

From female infanticide till 1970s to the emergence of sex selection technologies in 1980s, people have always found ways to have male child. A thriving market for sex selection sprung up with doctors openly advertising their services. In 1994, the government took notice and introduced the Prenatal Diagnostics Techniques Act which punishes healthcare professionals for telling expectant parents the sex of a child with imprisonment and hefty fines. In 2003, when technologies that allowed gender-selection even before conception became available, the act was amended to become the Prenatal Conception and Prenatal Determination Act (PC-PNDT).

By any token, this Act has been a failure. In all, 17 out of 29 States had either not registered any case, or had zero convictions. The PHFI report in 2010 found major gaps in the training of personnel implementing PC-PNDT. Poor training meant that they were unable to prepare strong cases against violators to secure convictions.

In conclusion: Now, India must implement the PC-PNDT more stringently, but must also dedicate more resources to fighting the preference for boys.

GEOGRAPHY

26th Feb to 7th Mar

'BOMB CYCLONE'

A winter storm – also known as a “bomb cyclone” –has slammed into the northeast United States.

Bomb cyclone

The term is used by meteorologists to indicate a mid-latitude cyclone that intensifies rapidly. A bomb cyclone happens when atmospheric pressure in the middle of the storm drops at least 24 millibars over 24 hours, quickly increasing in intensity. The lower the pressure, the stronger the storm.

How it works?

Deep drops in barometric pressure occur when a region of warm air meets one of cold air. The air starts to move and the rotation of the earth creates a cyclonic effect. The direction is counterclockwise in the Northern hemisphere leading to winds that come out of the northeast.

Hurricanes, cyclones and typhoons

Hurricanes, cyclones and typhoons are all tropical storms. They are all the same thing but are given different names depending on where they appear. When they reach populated areas they usually bring very strong wind and rain which can cause a lot of damage.

Hurricanes are tropical storms that form over the North Atlantic Ocean and Northeast Pacific. Cyclones are formed over the South Pacific and Indian Ocean. Typhoons are formed over the Northwest Pacific Ocean.

GENERAL STUDIES-2

POLITY

TRAFFICKING OF PERSONS BILL, 2018

Why in news?

The Union Cabinet has approved the Trafficking of Persons (Prevention, Protection and Rehabilitation) Bill, 2018 for introduction in the Parliament.

Forms of trafficking included:

- The Bill identifies various forms of trafficking, including for the purposes of bonded labour and begging.
- The bill also speaks of offences such as intimidation, inducement, promise of payment of money, deception or coercion.
- It mentions trafficking after administering any drug or alcohol or for the purpose of marriage or under the pretext of marriage.

Punishment: Rigorous imprisonment for a term which shall not be less than 10 years, but which may extend to life imprisonment and shall be liable to fine that shall not be less than Rs 1 lakh. For repeat offenders, it suggests imprisonment for life “which shall mean imprisonment for the remainder of that person’s natural life”, apart from a fine that will not be less than Rs 2 lakh.

Anti- trafficking bureau: The bill proposes the establishment of a national anti-trafficking bureau, which shall be entrusted with the gamut of issues aimed at controlling and tackling the menace under various forms. Functions include coordination, monitoring and surveillance of illegal movement of persons and prevention.

The bureau will also be entrusted with increasing cooperation with authorities in foreign countries for boosting operational and long-term intelligence for investigation of trafficking cases, and driving in mutual legal assistance.

State level measures: The bill also aims at having state-level anti-trafficking officers who shall also provide relief and rehabilitation services through district units and other civil-society organisations.

Relief and rehabilitation: The bill also spells out measures towards relief and rehabilitation for the victims of trafficking, and seeks the formation of a committee for this purpose. The committee is proposed to be headed by the women & child development secretary and would have members from

26th Feb to 7th Mar

the ministries of home; external affairs; labour and employment; social justice and empowerment; panchayati raj; and health and family welfare.

Backgrounder:

As per data released by the National Crime Records Bureau (NCRB), human trafficking numbers rose by almost 20% in 2016 against the previous year, with the highest number of cases reported in West Bengal followed by Rajasthan

Currently, there is no single law dealing with human trafficking and the crime is covered under different acts administered by at least half-a-dozen ministries, including WCD, home, labour, health, Indian overseas affairs and external affairs. More often than not, this results in lax enforcement.

GOVERNANCE ISSUES AND POLICIES

HIGHWAY LIQUOR BAN

The issue

In 2016, the Supreme Court passed an order banning the sale of alcohol along national and state highways, ordering the cancellation of liquor licences issued to shops by April 1, 2017.

The order states that no liquor stores should be even visible from highways, or located within a distance of 500 metres of the highways, or be directly accessible from a national or state highway.

A modification

The order has been subsequently modified to exempt establishments within 220 metres of the highways for smaller towns and municipalities with a population of less than 20,000 people.

State's discretion

The Supreme Court has given the State governments the discretion to decide, on facts, whether areas covered by local self-governing bodies or areas proximate to municipal pockets should be exempted from the court's nationwide prohibition on sale of liquor within 500 metres along the highways.

Why the ban?

The court cited "alarming" statistics showing drunk driving-related accidents and deaths, and said the order is in "overwhelming public interest" for road safety

Concerns

The Supreme Court's intentions cannot be questioned but it is a classic case of good intentions missing the mark. A blanket ban on all liquor outlets is a sweeping and radical measure, throwing out the baby with the bath water. While the move's impact on drunken driving is likely to be marginal, the ban puts thousands of valid businesses employing lakhs of people at risk.

OVER-CROWDED PRISONS

Why in news?

The Supreme Court has asked the National Legal Services Authority (NALSA) to provide details and figures of prisons where the occupancy rate is over 150%. Supreme court is hearing a matter relating to inhuman conditions prevailing in 1,382 prisons across the country.

The Under Trial Review Committees (UTRCs), set up in every district, deliberates and recommends the release of undertrial prisoners and convicts who have completed their sentences or are entitled to be released from jail due to bail or remission granted to them.

Open prisons

Semi-open prisons or open prisons allow convicts to work outside the jail premises and earn a livelihood and return in the evening. The concept was brought in to assimilate the convicts with society and reduce the psychological pressure and lack of confidence they faced lack of confidence in returning to lives outside prison.

Details

The management of prisons falls exclusively under the domain of the state government, as per the seventh schedule of the constitution. In every state, the prison administrative machinery works under the chief of prisons who is a senior ranking IPS officer.

Need for reforms:

NHRC figures show that prisoners cut off from family and friends had a 50% more chance of committing suicide than those outside.

26th Feb to 7th Mar

Indian prisons face three long-standing structural constraints: overcrowding due to a high percentage of undertrials in the prison population, understaffing and underfunding. The inevitable outcome is sub-human living conditions, poor hygiene, and violent clashes between the inmates and jail authorities.

In conclusion

Indian jails have often been dubbed as a place for grooming criminals due to pathetic and inhumane conditions. Fundamental rights of prisoners cannot be placed in the back-burner and the Centre and the states need to be more pro-active in sensitising staff about the need to treat prisoners as humanely as possible.

CAUVERY VERDICT

Why in news?

Recently Supreme Court pronounced its verdict in Cauvery river water dispute. While the Supreme Court awarded additional 14.75 TMC of Cauvery water to Karnataka, it reduced the share of Tamilnadu. However, Puducherry and Kerala's allocation remain unchanged.

Location of the river

River rises on Brahmagiri Hill of the Western Ghats in south-western Karnataka state. It flows in a south-easterly direction through the states of Karnataka and Tamil Nadu.

Before emptying into the Bay of Bengal south of Cuddalore, Tamil Nadu, the river breaks into a large number of distributaries forming a wide delta called the "garden of southern India." The river is important for its irrigation canal projects.

- In the upper course, at the Krishnaraja Sagara, the Kaveri is joined by two tributaries, the Hemavati and Lakshmantirtha, where a dam was constructed for irrigation.
- Upon entering Tamil Nadu, the Kaveri continues through a series of twisted wild gorges until it reaches Hogenakal Falls. There the Mettur Dam was constructed for irrigation and hydel power.
- The Kaveri's main tributaries are the Kabani (Kabbani), Amaravati, Noyil, and Bhavani rivers.

A dispute since British Raj

26th Feb to 7th Mar

The 122 years old Cauvery water sharing dispute has been a bone of contention between Karnataka and Tamil Nadu since the time of the British Raj. Cauvery river water dispute started in 1892 between Madras Presidency and the Princely state of Mysore. Madras disagrees to Mysore administration's proposal to build irrigation systems, arguing that it would impede water flow into Tamil Nadu.

Later in 1924 an agreement was reached and allowed construction of the Krishnaraja Sagar dam in Mysore. The agreement was to be valid for 50 years.

Post-Independence

The issue of water sharing became a real problem after the re-organisation of the states in 1956. Karnataka's argument was that the 50-year time period for the 1924 agreement had ended in 1974, and hence the state was not obliged to stick to the regulations.

Between 1960 and late 1980s, Karnataka built four dams on Cauvery – Hemavati, Harangi, Kabini and Suvarnavathy.

Tamil Nadu, the lower riparian state, argued that this put them in a precarious situation approached Centre for setting up Cauvery Tribunal in 1986. After the SC direction, Centre had setup a Cauvery Water Dispute Tribunal (CWDT). In its first interim award, CWDT asked Karnataka to release 205 tmcft of water to Tamil Nadu every year.

In 2007, CWDT passed the final award and allotted 30 tmc to Kerala, 270 tmc to Karnataka, 419 tmc to Tamil Nadu and 7 tmc to Puducherry. Since 2013, several petitions are filed in SC, seeking direction to the state of Karnataka to release water to Tamil Nadu.

In February 2018, clearing all the pending cases and the confusion, SC awarded Karnataka 14.75 tmc ft of Cauveri water from Tamilnadu's share. This means that the annual water release obligation of Karnataka reduces to 177.25 tmc ft, compared to 192 tmc ft as per the tribunal award.

Allocation for Bengaluru

The court acknowledges the need for a higher share of Cauvery water for Bengaluru, which now has more than 10 million inhabitants. In its verdict, the SC has granted the global status to Karnataka's capital city of Bengaluru; hence it will get more Cauvery river water.

26th Feb to 7th Mar

Keeping in mind the global status that Bengaluru has attained, an additional 4.75 tmc ft has been awarded to it in order to implement the existing water supply schemes. The remaining 10 tmc ft can be used to expand agricultural activities.

Takeaways from the SC order

The court makes it clear that the contentious 1924 agreement had lapsed. By upholding the approach of the Cauvery Water Dispute Tribunal, while slightly modifying its award, the Supreme Court has boosted the prospects of a viable water-sharing arrangement among the riparian States.

It has highlighted that no single State has primacy in accessing water resources and that rivers are national assets. This is a significant recognition of the principle of equitable distribution of inter-State rivers. It is Centre that should create a legal and technical framework to implement the Tribunal's award.

Grey areas in the order

It treats the dispute as a water-sharing dispute rather than as a river-sharing dispute.

Factor like changing rainfall pattern, rainwater harvesting, the potential of soil water capture, catchment degradation and local water systems are hardly given any attention. Prime among these unresolved issues is the framing of a deficit formula for sharing water, and construction of hydel project (Mekedatu Hydel Project) on the common boundary of the river.

Increasing of 10 tmc ft allocations for Karnataka on the basis of Tamil Nadu having access to additional groundwater in the Cauvery basin should have been based on full assessment.

FIXING DELIVERY

Why in news?

For better targeting of subsidies and plugging leakages, the government plans to roll out direct benefit transfer for fertiliser subsidy across the country.

26th Feb to 7th Mar

How it works?

The fertiliser subsidy will be given directly to the manufacturer after capturing the Aadhaar number through a point-of-sale (PoS) device of the farmer on purchase of a bag of fertiliser. An authenticated receipt comes out giving details of the purchase and subsidy to be paid by the government to the producer.

At present direct transfer of subsidy to beneficiaries like in LPG cannot be introduced in fertilizer sector as the beneficiaries and their entitlement is not clearly defined.

The records of dealers are automatically updated and payment is made digitally or in cash. Farmers now can receive fertilisers at a printed price with complete transparency.

Challenges in earlier system

- Multiple subsidized products, urea and 21 grades of Phosphatic & Potassic fertilizers have different subsidy rates.
- The subsidy rate in respect of urea varies from company to company due to different production processes, energy efficiencies of plants, vintage etc.
- The amount of subsidy in some fertilizers is huge. So it will be an enormous financial burden on the farmers to pay the MRP and subsidy upfront and receive the subsidy amount subsequently.

Benefits of new system

1. DBT in Fertilizer subsidy restricts diversion, prevents leakages, and brings about greater transparency, accountability and efficiency.
2. It will lead to better soil health management, balanced fertilization, and better productivity, besides increasing transparency.

What are the challenges?

1. Issues, such as biometric mismatch, authentication failure, and internet connectivity are still present, although they have reduced over time.
2. An important issue has been connectivity, like other IT-based initiatives, especially in rural areas. While this has been addressed through flexibility in choosing the connectivity option (Wifi, LAN, PSTN) or use of external antenna to improve signal strength, other options have also been considered.

3. Developing the systems and sensitising all stakeholders to migrate to the new system was an arduous task but it was successfully implemented as part of pilot project.
4. Some dealer attrition, which is probably on account of declining margins, is a major concern. This would need to be addressed on priority basis.
5. Fertilizer retailers worry that transactions authenticated through PoS may not be feasible during the Peak Kharif season due to long transaction times. It is likely that retailers will resort to higher 'adjusted transactions' (retailer registers all sales for the day on a few Aadhaar numbers) to handle peak load.

For an efficient fertilizer distribution system?

1. A strong communication campaign in vernacular languages is the need of the hour. This will enable farmers understand about the new subsidy scheme which is different from other DBT schemes.
2. Retailers should be allowed to use desktops, laptops, tablets, smartphones, etc. to run the application.
3. A formal Grievance Redress Mechanism is important when the DBT in fertiliser is rolled out across India. The revamped toll-free number will soon allow conversations in regional languages.
4. Reducing the waiting time for farmers purchasing fertilizers is important.
5. An 'early check out' system to pre-authenticate farmers at designated Points of Authentication (PoA) before they purchase fertiliser can tackle the peak-time transaction load.
6. While Aadhaar is the preferred form of identification of buyers, other forms of identification may also be used.

SPECIAL STATUS TO ANDHRA PRADESH

Why in news?

Andhra Pradesh government has asked the Centre to expedite resolution of all provisions in the AP Reorganisation Act, 2014, including according special category status to the state.

Backgrounder:

Andhra Pradesh has been demanding a Special Category State (SCS) status from Centre ever since it was decided to carve out Telangana along with capital city Hyderabad. Following the bifurcation of A.P., Andhra lost a large volume of its revenue due to Hyderabad remaining the capital of Telangana.

Special category states

The Constitution does not include any provision for categorisation of any State in India as a Special Category Status (SCS) State. But, recognising that some regions in the country were historically disadvantaged in contrast to others, Central plan assistance to SCS States has been granted in the past by the erstwhile Planning Commission body, National Development Council (NDC).

The NDC granted this status based on a number of features of the States which included: hilly and difficult terrain, low population density or the presence of sizeable tribal population, strategic location along international borders, economic and infrastructural backwardness and non-viable nature of State finances.

Nature of assistance

The SCS States used to receive block grants based on the Gadgil-Mukherjee formula, which effectively allowed for nearly 30 per cent of the Total Central Assistance to be transferred to SCS States as late as 2009-10.

Following the constitution of the NITI Aayog (after the dissolution of the Planning Commission) and the recommendations of the Fourteenth Finance Commission (FFC), Central plan assistance to SCS States has been subsumed in an increased devolution of the divisible pool to all States (from 32% in the 13th FC recommendations to 42%) and do not any longer appear in plan expenditure.

The FFC also recommended variables such as “forest cover” to be included in devolution, with a weightage of 7.5 in the criteria and which could benefit north-eastern States that were previously given SCS assistance. Besides, assistance to Centrally Sponsored Schemes for SCS States was given with 90% Central share and 10% State share.

WELFARE SCHEMES AND DEVELOPMENTAL GROUPS

RISE

IITs will corner the largest chunk of loans on offer under the new funding model — Revitalising Infrastructure and Systems in Education (RISE) — for all centrally-run institutes, announced in the Union Budget.

26th Feb to 7th Mar

Details about the scheme

Under RISE, all centrally-funded institutes (CFIs), including central universities, IITs, IIMs, NITs and IISERs, can borrow from a Rs 1,00,000 crore corpus over the next four years to expand and build new infrastructure.

The initiative aims to step up investments in research and related infrastructure in premier educational institutions, including health institutions.

Higher Education Financing Agency (HEFA) would be suitably structured for funding this initiative.

HEFA:

It is a Special Purpose Vehicle with a public sector bank (Canara Bank). It would be jointly funded by the promoter/bank and the MHRD with an authorised capital of ₹ 2,000 crore.

Functions: HEFA will leverage the equity for the funding of world-class infrastructure at the IITs, IIMs, the National Institutes of Technology (NITs) and such other institutions. The agency will also mobilise Corporate Social Responsibility (CSR) funds from public sector units (PSUs) and corporates. These would be released as grants to eligible institutions for promoting research and innovation.

Significance: Funding from HEFA is expected to boost infrastructure, especially state-of-the-art laboratories, in key institutions such as the Indian Institutes of Technology (IITs), the Indian Institutes of Management (IIMs), and the Indian Institutes of Information Technology (IIITs).

AVIATION MULTI SKILL DEVELOPMENT CENTRE (MSDC)

Why in news?

A first-of-its-kind Aviation Multi Skill Development Centre (MSDC), a CSR initiative of Airports Authority of India (AAI) was inaugurated in Chandigarh.

Details

The Centre has been set up in collaboration with the National Skill Development Corporation (NSDC) and is supported by the Aerospace and Aviation Sector Skill Council (AASSC) of India.

- Demand for aviation skilled personnel has been rising commensurately with the boom in the civil aviation sector
- More than 900 new aircraft are expected to be inducted by Indian scheduled airlines in the coming few years.

26th Feb to 7th Mar

- Air connectivity for both passenger transport and air freight is increasing, with new air routes and operationalisation of unserved or underserved airports through the UDAN Regional Connectivity Scheme.

NSDC:

The National Skill Development Corporation (NSDC) is a one-of-its-kind, Public Private Partnership (PPP) model in India, under the Ministry of Skill Development & Entrepreneurship (MSDE). It aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.

Functions:

- Provides funding to build scalable and profitable vocational training initiatives.
- Its mandate is also to enable support system which focuses on quality assurance, information systems and train the trainer academies either directly or through partnerships.
- NSDC acts as a catalyst in skill development by providing funding to enterprises, companies and organisations that provide skill training.
- It will also develop appropriate models to enhance, support and coordinate private sector initiatives.

Page | 15

SWAJAL YOJANA

Why in news?

Swajal pilot project has been launched at Village Bhikampura, Karauli, Rajasthan.

Details

Swajal is a community owned drinking water programme for sustained drinking water supply.

- Under the scheme, 90% of the project cost will be taken care by the Government and the remaining 10% of the project cost will be contributed by the community.
- The Operations and management of the project will be taken care by the local villagers.
- Besides ensuring the availability of clean drinking water to every household round the year, the project would also generate employment.

In conclusion

With major rivers and a good monsoon, India is not a water scarce country. But lack of sensitisation with regard to both conservation of water and pollution of water sources has resulted in a distress. Infrastructure for storage of water must be developed properly to ensure that people have access to safe water across the country.

PMEGP

Why in news?

The government has approved the continuation of Prime Minister's Employment Generation Programme (PMEGP) beyond the 12th Plan period for three years to 2019-20. The scheme will create sustainable estimated employment opportunities for 15 lakh persons in three financial years.

Programme details

Implemented by: Ministry of MSME since 2008-09. 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.

Aim: 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.

Targets:

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.

SOCIAL SECURITY SCHEME

Why in news?

The labour ministry has proposed a comprehensive social security system to provide retirement, health, oldage, disability, unemployment and maternity benefits to 50 crore workers in the country.

Implementation

The scheme will be implemented in three phases over 10 years, after which the government hopes to make it universal. The scheme will be implemented in four tiers with the government wholly financing the cost for people below the poverty line.

1. The first phase will see all workers getting the bare minimum, which includes health security and retirement benefits.
2. The second phase will see unemployment benefits being added to it
3. Third phase, other welfare measures can be added.

Funding:

26th Feb to 7th Mar

The scheme will be largely funded from the Building and Construction Worker Cess and funds allocated to other scattered schemes through the National Stabilisation Fund set up for the purpose.

Its implementation would be regulated and monitored by an overarching regulatory body called the National Social Security Council to be chaired by the prime minister with finance minister, health minister and chief ministers of all states along with workers and employers as its members.

Classification of workers:

The 50 crore beneficiaries will be classified into four tiers.

- The first tier will comprise destitute and people below poverty line who cannot contribute for their security and hence the cost will be entirely borne by the government under tax-based schemes.
- Workers in the unorganised sector who have some contributory power but are not self-sufficient may be covered under the subsidised schemes in the second tier.
- The third tier of beneficiaries will include those who either by themselves or jointly with their employers can make adequate contribution to the schemes, so as to be self-sufficient.
- The fourth tier will comprise comparatively affluent people who can make their own provisions for meeting the contingencies or risks as they rise.

Page | 17

INDIA AND ITS INTERNATIONAL RELATIONS

H-4 VISAS

Why in news?

The Trump administration has delayed its decision on terminating the work authorisation of H-4 visa users, spouses of H-1B visa holders, till June as it needs time to review the economic impact of such a decision. The extension of decision-making process by four months comes as a temporary relief to the spouses of H-1B visas holders, a significantly large number of whom are Indian workers.

The issue

Since 2015, the spouses of H-1B visa holders waiting for green cards have been eligible to work in the U.S. on H-4 dependent visas, under a rule introduced by the previous administration. However, in January 2018, United States Citizenship and Immigration Services (USCIS) reevaluated

26th Feb to 7th Mar

the rule and determined that significant revisions to the draft proposal were necessary.

H-4 Visa

H-4 visa holders are immediate family members of H-1B visa holders. Most H-4 visa holders are spouses who want to join their partner in a new country. They enjoy many of the benefits of living in the United States, but some limitations exist. That's why an H-1B visa is better. The only people who qualify are dependents. In the United States, those people are spouses and unmarried children under the age of 21.

They can live in the United States on a continuous basis. They can also travel to and from the country as needed. H-4 visa holders can either join their spouse immediately or choose to move to America at a later date. They also have the right to attend college in the United States and may even enjoy discounted tuition.

Validity

No official termination date exists for an H-4 visa. Instead, the holder of the primary visa, the H-1B, will determine length of stay. When that visa expires, both the H-1B and H-4 holders are no longer eligible for American residency.

Nuclear plant in Bangladesh:

Why in news?

India, Bangladesh and Russia have signed a tripartite memorandum of understanding (MoU) for cooperation in the construction of the Rooppur nuclear power plant in Bangladesh.

Russia is building the nuclear power plant in Bangladesh on a turnkey basis. Indian companies can be involved in construction and installation works and in the supply of equipment of a non-critical category.

INTERNATIONAL AFFAIRS

ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)

Why in news?

26th Feb to 7th Mar

The Asian Infrastructure Investment Bank (AIIB) has approved \$1.5 billion in loans to India for infrastructure projects in 2018. The funds are meant for investment in energy, roads and urban development projects. Major part will be invested under the National Investment and Infrastructure Fund (NIIF) framework.

AIIB:

The AIIB was established in 2014 as a new multilateral financial institution aimed at providing “financial support for infrastructure development and regional connectivity in Asia.”

Headquarters: Beijing.

Goals: To boost economic development in the region, create wealth, improve infrastructure, and promote regional cooperation and partnership.

Funding: The value of AIIB’s authorized capital amounts to \$100 billion, with almost \$30 billion invested by China. India is not only one of the founding members of AIIB but is also the 2nd largest shareholder in AIIB.

THE MALDIVES CONUNDRUM

Why in news?

The Maldives remains in crisis after President Abdulla Yameen imposed emergency on February 5, following the Supreme Court overturning the imprisonment of his political rivals.

The timeline

President Abdullah Yameen had said that he declared an emergency in the country as the Supreme Court had a plan to overthrow his government by first making it dysfunctional through a series of orders including release of nine opposition leaders.

Former President Abdul Gayoom and two Supreme Court judges including chief Justice were arrested after the declaration of emergency. In the later events, Maldives Supreme Court cancels its earlier decision to release nine opposition leaders, hours after police arrested the Chief Justice and another judge.

The court’s remaining three judges issued a statement saying the order has been revoked in light of the concerns raised by the president.

26th Feb to 7th Mar

Opposition parties have called for international help saying Presidents' moves are encroachment on the entire democratic system.

Mohamed Nasheed wants India to intervene in the situation. He lists China's "land grab" and the threat of the Islamic State (IS) as bigger challenges. India has asked that the Maldives' government should abide by the court's original ruling and lift the emergency.

Emergency is illegal

Government needs 43 MPs in the Majlis (Legislative body of Maldives) that must vote in favour of emergency. But they don't have that number in the house. This means that the emergency, and any extension to it, is illegal. It also means that any actions taken by the government or security forces using emergency powers are illegal.

Meanwhile, the Chief Justice and another Supreme Court Justice have been illegally detained. This means anything decided by the remaining SC justices is invalid.

Failure of multiparty talks

The government has offered multiparty talks to resolve the long pending issue.

However, Opposition parties would like to see the government create an environment that is conducive to talks. They feel it is very difficult to sit down while the Chief Justice along with the former President and many political leaders are in jail, and there is emergency rule.

Opposition wants President Yameen to create an environment where both sides can trust each other and sit down for talks. But, at present, the general view is that President Yameen is trying to buy time. The United Nations should be engaged in them as well.

Cause of crisis

The real crisis in the Maldives is not dealing with dictatorship. The real crisis in the Maldives springs from two recent developments.

1. First one is that the development of a state within the Maldives by the IS.
2. Second, attempts by emerging powers to change state type, with a view to drive land grab.

During the last 40 years, Saudi Arabia has propagated a very narrow version of Islam that has created a breeding ground for jihadi movements.

26th Feb to 7th Mar

It is also worrying that the Maldives has sent the most number of people per capita than any country to fight for the IS. Hundreds of Maldivians have joined jihadi groups. The issue becomes a crisis as the IS would soon spread to the Maldives.

Although land grabs are occurring worldwide, they are more common in countries where the protection of human rights is poor.

Due to a combination of international and domestic drivers, the Maldives has become a flourishing land-grab paradise. China has increased its influence with more foreign direct investments without a proper scrutiny and competitive bidding. The weapons in the new colonial arsenal are bribery, corruption and dubious investments.

India's help sought

India must be on the ground in Male with an envoy and try to ensure that President Yameen relents. Nasheed also called upon India to send an envoy backed by military to release judges and political detainees. He also requested US government to stop all financial transactions of Maldives regime leaders going through US banks.

Maldives becoming an area of contestation, struck by the roles that India, China and the U.S now play in the Indian Ocean. Maldives seem to be a bit sandwiched there. The U.S., however, seems to be looking more and more inwards, and it is unlikely that US will exert their power in the ocean. So, India remains in the best position to help Maldives to get out of the present crisis. India must counter China's troublesome, but obviously attractive, influence in South Asia.

India was the only country in the region, minus Bhutan, which didn't join China's Belt and Road Initiative (BRI). In the past, the Maldives became a middle-income country, primarily through development loans from the State Bank of India. India has the ability to provide more sustainable loans for Indian Ocean countries, and that is where it has an edge.

GLOBAL STATUS REPORT 2017

The 'Global Status Report 2017: Towards a zero-emission, efficient, and resilient buildings and construction sector,' published by the United Nations Environment Programme (UNEP), has listed the Energy Management Centre (EMC), an autonomous institution under the Kerala government campus, as one of the recent achievements in the deployment of key technologies for energy-efficiency in buildings.

Unique features of EMC campus:

The EMC campus uses daylighting controls, CFC-free heating, ventilation and cooling systems, along with a halogen-free fire-fighting system. Solar reflectance index coating, combined with high-albedo painting and turbo-vents for passive cooling, has been used, and tropical rainforest trees help create cool surroundings.

Only certified green construction materials, recycled wood boards, low-emitting paints and adhesives, and green-plus certified carpets have been used. Built with assistance from the Global Environment Fund, the EMC campus is the only LEED Gold certified building in the government sector in Kerala.

EMC is the only one from India to figure in the list, along with five other projects worldwide.

DISPUTE SETTLEMENT BODY (DSB)

Why in news?

The World Trade Organisation's Dispute Settlement Body (DSB) has agreed to India's request for setting up a panel to determine whether the country complied with a previous ruling striking down its domestic content requirements for solar cells and modules.

The issue

In 2016, New Delhi had lost a case against the US at the WTO after the global trade body stated that power purchase agreements signed by the Indian government with solar firms for its National Solar Mission did not meet international trade norms.

The US, which is of the opinion that New Delhi continues to apply the "WTO-inconsistent measures", had in December last year approached the Geneva-based multi-lateral organisation demanding action against India for non-compliance of the WTO ruling.

Dispute Settlement Body:

The General Council convenes as the Dispute Settlement Body (DSB) to deal with disputes between WTO members. Such disputes may arise with respect to any agreement contained in the Final Act of the Uruguay Round

26th Feb to 7th Mar

that is subject to the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU).

The DSB has authority to establish dispute settlement panels, refer matters to arbitration, adopt panel, Appellate Body and arbitration reports, maintain surveillance over the implementation of recommendations and rulings contained in such reports, and authorize suspension of concessions in the event of non-compliance with those recommendations and rulings.

Page | 23

WORLD'S FIRST DIGITAL LEGAL TENDER

The Marshall Islands will launch the world's first legal tender cryptocurrency. A law in this regard has been passed by the parliament.

Details

The Marshall Islands has partnered with Israeli company Neema to issue 24 million units of the Sovereign (SOV) digital currency.

- The SOV will require users to identify themselves, thus avoiding the anonymity that has kept bitcoin and other cryptocurrencies from gaining support from governments.

Different from 'Petro'

Venezuela had launched the Petro cryptocurrency in February. Unlike the Petro, the Sovereign (SOV) will be recognized in law as legal tender, holding equal status as the US dollar, which is the Pacific island nation's current currency.

How are cryptocurrencies used?

Cryptocurrency is fundamentally a decentralised digital currency transferred directly between peers and the transactions are confirmed in a public ledger, accessible to all the users. The process of maintaining this ledger and validating the transactions, better known as mining, is carried out in a decentralised manner. The underlying principle of the authenticity of the present to historical transactions is cryptographic proof, instead of trust; different from how it happens in the case of traditional banking systems.

Concerns

Cryptocurrencies are being denounced in many countries because of their use in grey and black markets. There are two sets of interconnected risks; one being to the growth and expansion of these platforms in the uncertain

26th Feb to 7th Mar

policy environment, and the other being the risks these platforms pose to the users and the security of the state. They also have the potential use for Illicit Trade and Criminal Activities and can be used for Terror Financing.

Page | 24

GENERAL STUDIES-3

INDIAN ECONOMY

FUGITIVE ECONOMIC OFFENDERS BILL

Why in news?

The Union government is all set to enact the Fugitive Economic Offenders Bill to confiscate assets of those who flee the country and refuse to return after committing frauds in excess of Rs. 100 crore. A draft of the Bill, which is in consonance with similar legislation in several countries, has already been circulated.

Provisions

It seeks to deter economic offenders from evading the process of Indian law by fleeing the country.

- The bill proposes to allow the Financial Intelligence Unit (FIU), the premier technical snoop wing under the finance ministry, to file an application for the declaration of fugitive economic offender for confiscation of their assets.
- The courts under PMLA would be entrusted with the responsibility to try the case.
- Also, the bill has provision for appointment of an administrator to dispose off the property to pay off the creditors.
- Besides, the provisions of the proposed law will override provisions of other existing laws.
- The burden of proof for establishing that an individual is a fugitive economic offender will be on the authorities.

The Need

There have been several instances of economic offenders fleeing the jurisdiction of Indian courts, anticipating the commencement, or during the pendency, of criminal proceedings. The absence of such offenders from Indian courts has several deleterious consequences— first, it hampers investigation in criminal cases; second, it wastes precious time of courts of law; third, it undermines the rule of law in India.

SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATION

Why in news?

The ₹ 11,500 crore fraud in the Punjab National Bank where fund transfer through an inter-bank messaging system was not reported to the core banking solution, followed by the cyberattack on the City Union Bank, has put the spotlight once again on SWIFT or the Society for Worldwide Interbank Financial Telecommunication.

SWIFT

The SWIFT is a secure financial message carrier which transports messages from one bank to its intended bank recipient, without information being divulged at any point. The latter Bank, in turn, knows that the former, and no one else sent, read or altered the message en route.

26th Feb to 7th Mar

The SWIFT is a global member-owned cooperative that is headquartered in Brussels, Belgium. Founded in 1973 by a group of 239 banks from 15 countries to develop a secure electronic messaging service and common standards to facilitate cross-border payments.

Page | 26

INCOME TAX APPELLATE TRIBUNAL

Why in news?

A recent decision of the Income Tax Appellate Tribunal's Pune bench allowing pharmaceutical companies to account for their spending on doctors as a deductible expenditure has sparked off a fresh debate on ethics.

Concern

Since the companies are out of the purview of the Medical Council of India (MCI), money spent on promotions, which in some cases could be gifts, travel, hospitality and so on for doctors, besides medical conferences and samples, can be claimed as deductible expenditure. Doctors accepting such promotions may be violating the code of ethics of the MCI.

ITAT:

ITAT is a quasi judicial institution set up in 1941 and specializes in dealing with appeals under the Direct Taxes Acts.

- The orders passed by the ITAT are final, an appeal lies to the High Court only if a substantial question of law arises for determination.
- It functions under the Department of Legal Affairs in the Ministry of Law and Justice.

NATIONAL FINANCIAL REPORTING AUTHORITY

The Union Cabinet has approved the proposal for establishment of National Financial Reporting Authority (NFRA) as an independent regulator for the auditing profession which is one of the key changes brought in by the Companies Act, 2013.

NFRA:

National Financial Reporting Authority (NFRA) is a body proposed in Companies Act 2013 for the establishment and enforcement of accounting and auditing standards and oversight of the work of auditors.

Functions:

26th Feb to 7th Mar

It would be an overarching watchdog for auditing profession and once set up, the current powers of the ICAI to act against erring chartered accountants will be vested with the new regulator. The NFRA will have powers to debar an erring auditor or auditing firm for up to ten years besides slapping heavy penalties.

Jurisdiction:

The jurisdiction of the NFRA will extend to all listed companies as well as large unlisted public companies. Besides, the government can refer other entities for investigation by the NFRA where public interest would be involved.

Composition:

The regulator will have 15 members, including a chairperson and three full-time members. Besides, there would be a secretary.

What necessitated this move?

The need for establishing NFRA has arisen on account of the need felt across various jurisdictions in the world, in the wake of accounting scams, to establish independent regulators, independent from those it regulates, for enforcement of auditing standards and ensuring the quality of audits to strengthen the independence of audit firms, quality of audits and, therefore, enhance investor and public confidence in financial disclosures of companies.

Impact:

The decision is expected to result in improved foreign/domestic investments, enhancement of economic growth, supporting the globalisation of business by meeting international practices, and assist in further development of audit profession.

PANEL ON FINTECH SPACE

Why in news?

The Centre has set up a steering committee to go into various issues relating to Fintech space in India. The committee will be headed by Subhash Chandra Garg, Secretary, Department of Economic Affairs.

Terms of reference:

The committee will work with government agencies such as UIDAI to explore creation and use of unique enterprise identification number.

26th Feb to 7th Mar

- It will also look into the possibility of international co-operation opportunities in Fintech with countries such as Singapore, the U.K., China and others.
- The committee will consider means of using data with GSTN and data residing with information utilities such as credit information companies (CICs) and others in open domain with a view to developing applications for financing of micro, small and medium enterprises (MSMEs).
- It will also develop regulatory interventions e.g., regulatory sandbox model, that will enhance the role of Fintech in sectors identified for focused interventions. The idea is to facilitate ease of doing business in the Fintech sector.

Page | 28

What is Fintech?

Fintech Or financial technology is the industry known for championing software and technology in the financial sector. A very broad term, it includes anything from a bank ATM, to software used to help spot manipulation of securities markets.

Why is it important?

India has a large population of non-city folk, many million small enterprises and any number of small borrowers without any credit history, who today cannot knock at the banks' doors for loans. It is therefore said to be just ripe for a Fintech revolution. To help things along, the Government is expediting this by promoting the JAM trinity (Jan Dhan, Aadhar, Mobile).

The reason why banking bigwigs are watching these developments like hawks is that Fintech has enormous power to disrupt old-world banks. They mostly function as online bazaars that simply put borrowers in touch with lenders or entrepreneurs with investors, while they pocket a fee on each transaction.

AGRICULTURE AND CROPPING PATTERNS

DRAFT PESTICIDE BILL

The Centre has released a new draft Pesticide Management Bill 2017 to replace old legislation governing the plant chemicals sector. Proposed as a step towards promoting safe use of pesticides, this Bill seeks to regulate the manufacture, inspection, testing and distribution of pesticides.

26th Feb to 7th Mar

The Pesticide Management Bill, 2008:

The Bill establishes a Central Pesticides Board to advise the government on matters related to pesticide regulation, manufacture, use and disposal.

- It establishes a registration committee to register pesticides.
- No pesticide can be registered unless tolerance limits for its residues on crops and commodities are specified under the Food Safety and Standards Act, 2006.
- The Bill establishes a procedure to licence manufacturers, distributors and retailers to be administered by state governments.

Page | 29

Issues:

Farmers are opposing the bill as it does not address the core issues of applying penal provisions on companies marketing pesticides. The draft bill also does not ease the powers of regulation and registration to the state governments which has been a long pending demand of many governments. Also, the burden of spurious pesticide has once again passed on to the Registration Committee (RC) which is set to expanded under the new Bill.

SATARA MEGA FOOD PARK

Why in news?

The first Mega Food Park in the state of Maharashtra at Village Degaon, District Satara. This is the 10th Mega Food Park being operationalized in the country.

India's first: 'Srini Mega Food Park' was opened in Chittoor in Andhra Pradesh in 2012.

Mega Food Park Scheme:

To give a major boost to the food processing sector by adding value and reducing food wastage at each stage of the supply chain with particular focus on perishables, Ministry of Food Processing Industries is implementing Mega Food Park Scheme in the country.

- Mega Food Parks create modern infrastructure facilities for food processing along the value chain from farm to market with strong forward and backward linkages through a cluster based approach.
- Common facilities and enabling infrastructure is created at Central Processing Centre and facilities for primary processing and storage

26th Feb to 7th Mar

is created near the farm in the form of Primary Processing Centers (PPCs) and Collection Centers (CCs).

Implementation

The Mega Food Park project is implemented by a Special Purpose Vehicle (SPV) which is a Body Corporate registered under the Companies Act. However, State Government, State Government entities and Cooperatives are not required to form a separate SPV for implementation of Mega Food Park project. Under the Scheme, Government of India provides financial assistance upto Rs. 50.00 Crore per Mega Food Park project.

Challenges

Despite its huge potential, MFPS has failed to gain momentum due to several reasons.

1. Promoters have faced difficulties in selling the new concept to banks and, as a result, have failed to secure loans to build the parks.
2. Acquiring the 50 acres of land, which is mandatory under MFPS, has been another challenge that most developers have failed to address.
3. Convincing small enterprises to set up shop at these facilities has not been easy.
4. The overall economic slowdown, globally, and in India, did not help either.

INDUSTRY, INFRASTRUCTURE AND INVESTMENT

INTERNATIONAL CONFERENCE ON SUSTAINABLE BIOFUELS

Organized by: Department of Biotechnology, Govt. of India on behalf of Mission Innovation and Biofuture Platform

Venue: New Delhi.

Details

- The Sustainable Biofuel is one of the Seven Mission Innovation Challenges and India Co-leads this along with other countries Brazil, Canada and China.
- The sustainable biofuel innovation challenge under Mission Innovation aims to accelerate research, development and deployment of low cost, high GHG impacting advanced biofuels.

26th Feb to 7th Mar

Participants: Senior Government Officers, Technical Experts, Academicians, Researchers and Representatives from various Countries, Industry and Investors will participate in the event.

Aims

- Provide a platform to exchange experiences and challenges related to development and scaling up of advanced biofuels.
- Exchange best practices in developing projects, performance breakthroughs and in cost reduction.
- Understanding the concerns of private sector and that of investors, to speedup large scale production of sustainable biofuels.

Mission Innovation

Mission Innovation (MI) is a global initiative of 22 countries and the European Union to dramatically accelerate global clean energy innovation. As part of the initiative, participating countries have committed to double Clean Energy Research and Development investments over five years.

Biofuture Platform

The Biofuture Platform aims to be an action-oriented, country-led, multistakeholder mechanism for policy dialogue and collaboration among leading countries, organizations, academia and the private sector conscious of the need to accelerate development and scale up deployment of modern sustainable low carbon alternatives to fossil based solutions in transport, chemicals, plastics and other sectors.

Page | 31

SHAKTI

STHALA

The Karnataka government recently inaugurated the world's largest solar park, Shakti Sthala. It is located in Tumkur district, about 180km from Bengaluru.

Significance

The park ties in with the centre's scheme to generate 100 gigawatts (GW) of solar power by 2020. It has a capacity of 2,000 MW.

It is part of the "Karnataka Solar Policy 2014-2021" which aims to decrease dependence on traditional power sources and move to environmentally friendly ones to meet the growing power needs of the state.

PLANNING FOR ELECTRIC MOBILITY

Pollution is the largest environmental cause of disease and premature death in the world today. Last year, the Lancet Commission on Pollution and Health, attributed to air pollution an estimated 6.5 million premature deaths globally, with 1.1 million being from India.

The World Health Organisation's urban air quality database had found four Indian cities to be among the world's 10 most polluted. As vehicular pollution is the main cause for deteriorating air quality in India, solutions like shift to Electric Vehicles (EV) is widely discussed.

Can Electric Cars Solve Air Pollution Problems?

Internal combustion engine vehicles are responsible for the vast majority of pollutants. Whereas Electric vehicles produce little or no pollution directly except pollution created at the power plant that provides their electricity.

The electric vehicles reduce air emissions associated with typical internal combustion vehicles (ICVs), thereby decreasing the emission of environmentally damaging products such as carbon dioxide and nitrogen oxides. Since electric vehicles run on electricity generated from batteries and do not emit air pollutants, these vehicles are termed **zero emission vehicles (ZEV)**.

While transforming from an ICV to EV based engines is to be an arduous task, the long term benefits could outweigh the hardships. But to reach a goal of moving towards electric mobility by 2030, India needs to address all fundamental issues immediately.

Fundamental issues

1. Coordination among various stakeholders:
 - Multiple ministries such as Road Transport and Highways, Housing and Urban Affairs, Heavy Industries, Power, New and Renewable Energy, External Affairs as well as national institutes such as NITI Aayog should work together.
 - State and city-level players need to be involved so as to address several technical and infrastructural needs.
2. Figuring out the best mode forward:
 - China has focussed on **Electric buses** as catalyst for EV penetration.
 - On the other hand, Netherlands has captured the EV market using a simple yet well-crafted strategy of creating **charging infrastructure** and encouraging investment in charging technology. It's a major exporter of this technology too.

- Currently India is the largest exporter of two wheelers and auto-rickshaws. So, India has to choose its own strategy according to its own requirements to increase EV penetration.
3. EV battery production:
- India does not produce lithium-ion (Li-ion) batteries currently, and companies making battery packs are dependent exclusively on imports from China.
 - This is a cost-saving strategy as setting up a cell manufacturing unit in India would be expensive.
 - But, accelerating EV use in India **should be linked to the “Make in India”** goal and domestic battery production.
4. Charging infrastructure:
- Charging infrastructure for electric vehicles in India has not been fully developed yet.
 - EV charging is more than just using electricity. **It involves exchange of information** requiring a communication protocol.
 - The three major EV users, China, Japan and the European Union, have their own charging technologies which are not interchangeable.
 - The absence of a standard global infrastructure is a major deterrent for EV penetration in India, as creating infrastructure can be cost-intensive.
 - The government needs to select or develop appropriate and safe charging technology that avoids multiplicity and reduces the cost of infrastructure.
5. Jobs and the economic impact:
- India is one of the largest producers of motor vehicles and the sector is estimated to provide direct and indirect employment to 3 crore people. And it is estimated to grow further.
 - EVs have the potential to disrupt the mobility ecosystem, and, if implemented well, could have a positive impact on the economy as well as the urban environment.

Government Initiatives

The government has asked auto companies to start manufacturing electric vehicles in India, and is also studying global markets to come up with a policy surrounding electric mobility and storage.

- The Government started Faster Adoption and Manufacturing of Hybrid and Electric vehicles (FAME) scheme which provides incentives for purchasing electric vehicle.
- Government is releasing tenders to increase charging infrastructure in the country. India will get its very first electric vehicle charging station in Nagpur.
- Karnataka state approved Electric Vehicle and Energy Storage Policy 2017.
- BS (Bharat Stage) protocol for Charging was formed to build the framework for future charging stations.

GRID STABILITY

Electricity is a major concern in rural India, especially for farmers. The Government of India has come up with an original plan to address this problem.

With the objective of providing financial and water security to farmers, Government has come up with a scheme called Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM).

Additionally, to ensure optimal use of this solar energy, and to incentivise farmers to shift to renewable energy, the government plans to purchase the surplus power through electricity distribution companies. Government must ensure that this ambitious plan to help farmers earn from solar power is properly studied and implemented.

KUSUM

The KUSUM (Kisan Urja Suraksha evam Utthaan Mahabhiyan) scheme was announced in the Union Budget in 2018.

- The government will spend 48,000 crore rupees over 10 years as central financial assistance (CFA).
- The scheme aims to encourage the use of barren land for setting up solar power plants.
- Scheme incentivizes farmers to run solar farm water pumps.
- This programme will help set up more than 28 GW of combined solar capacity through these solar pumps.
- Ministry of New and Renewable Energy will start implementing this scheme from the next fiscal year.

Four components of the Scheme:

26th Feb to 7th Mar

The scheme plans for setting up of 10,000 MW of Decentralized Ground Mounted Grid Connected Solar Power Plants

- Installation of 17.5 Lakh Stand-alone Solar Pumps
- Solarisation of 10 Lakh Grid Connected Agriculture Pumps
- 50 Thousand Tube-wells/Lift Irrigation Projects by Financial Year 2021-22.

Advantages of the scheme

- Transmission losses and power theft would drop significantly.
- As proposed in the scheme, the main priority will be to rely on Local generation of power.
- It promotes decentralized solar power production.
- The scheme would also promote energy efficiency, water conservation and water security to farmers.
- The government's plan to purchase the surplus power through electricity distribution companies will certainly increase agricultural incomes and reduce electricity losses.
- The sale of excess power from farmers will discourage overutilization of groundwater.

Limitations

The feasibility of purchasing surplus solar power seems challenging. There is a need to address the issue of grid stability that this injection of surplus power is bound to create. Balancing of all power grids is more important. Because power generation should work round the clock as electricity generated can't be stored.

The existing electrical gridlines were created to depend on reliable and controllable generators of coal, oil and even hydroelectric power. So, for inclusion of solar and wind power generators into the grid, a more precise balance will have to be created.

Solar and wind power are fluctuating in nature which depend on sunlight and cloud conditions.

Variations in weather patterns make it more difficult for the grid operator to predict the balance of electrical energy that will be required to meet the demand.

So to maintain a consistent round-the-clock power delivery the grid operators will need to have a back-up source of power in the form of coal or oil.

26th Feb to 7th Mar

Need of the hour

Because of India's sheer size, the variability factor considerably increases like when some areas have low consumption; others are likely to have high consumption. So, more stability can be achieved by integrating the grids into all-India grids.

Attention also should be given to the stability of the grid; otherwise the grid network collapses due to the uncertainties of power supply and demand. Expected advances in storage technology would also significantly improve grid stability. Centre along with state governments should put in place adequate procedures to purchase the excess solar power from farmers.

SCIENCE AND TECHNOLOGY

RUSTOM 2

Why in news?

DRDO has successfully completed the test flight of its Rustom 2 drone. Rustom 2 is part of the Rustom line of Unmanned Aerial Vehicles (UAVs) that includes Rustom-I, Rustom-H and Rustom-C.

Details

Rustom 2 drone is a medium-altitude, long-endurance unmanned aerial vehicle, developed on the lines of predator drones of the United States. The objective of this drone is to carry out surveillance for the armed forces with an endurance of 24 hours.

- The drone was developed for use by all three services of the Indian armed forces, primarily for intelligence, surveillance and reconnaissance (ISR) operations.
- The medium-altitude long endurance (MALE) prototype can fly at over 22,000 ft and is a long-endurance UAV that has an approximate flight time of 20 hours.
- Rustom 2 can fly missions on manual as well as autonomous modes.

ARCTIC SEED VAULT

Why in news?

Norway has announced it will spend \$13 million, to make improvements to a special seed vault in the Arctic. The vault, celebrating its 10th anniversary, has the ability to hold about 2.5 billion seeds in total.

Details about the vault

The Norwegian government built the Svalbard Global Seed Vault in 2008 to store seed samples of the world's crops and plants. The vault serves as a natural deep freeze, and is meant to protect important genetic material in case of a major man-made or natural disaster.

Need: The loss of crop diversity and the vulnerability of existing seed collections in various seed/gene banks gave birth to the idea in of establishing a back-up seed facility in Svalbard.

Owner

Depositors retain ownership rights over the seeds sent to the facility. The boxes with seeds are sealed by the depositors and are not distributed to or given access to by anyone other than the depositors.

Significance of the location

Its cold climate and permafrost make the area a perfect location for underground cold storage.

- The surrounding sandstone is stable for building and is low in radiation.
- In terms of security, Svalbard scores high marks compared to the locations of many other genebanks in the world.
- The vault is located an extraordinary 120 meters into the rock, ensuring that the vault rooms will remain naturally frozen even in the event of failure of the mechanical cooling system and rising external air temperatures due to climate change.

Concerns:

In late 2016, the permafrost began to unexpectedly melt. This caused water to flow into the entrance of the vault tunnel. The event raised concerns about the need to better protect the samples. However, Norway government has initiated improvement works.

India's seed vault

At Chang La in the Himalayas, at a height of 17,300 feet, there is a storage facility with over 5,000 seed accessions. One accession consists of a set of seeds of one species collected from different locations or different populations.

The vault is a joint venture of the National Bureau of Plant Genetic Resources (which comes under the Indian Council of Agricultural Research) and the Defence Institute of High Altitude Research (under Defence Research and Development Organisation).

NATIONAL SCIENCE DAY 2018

Why is it celebrated?

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. He was awarded and honored with the Nobel Prize in the Physics in the year 1930.

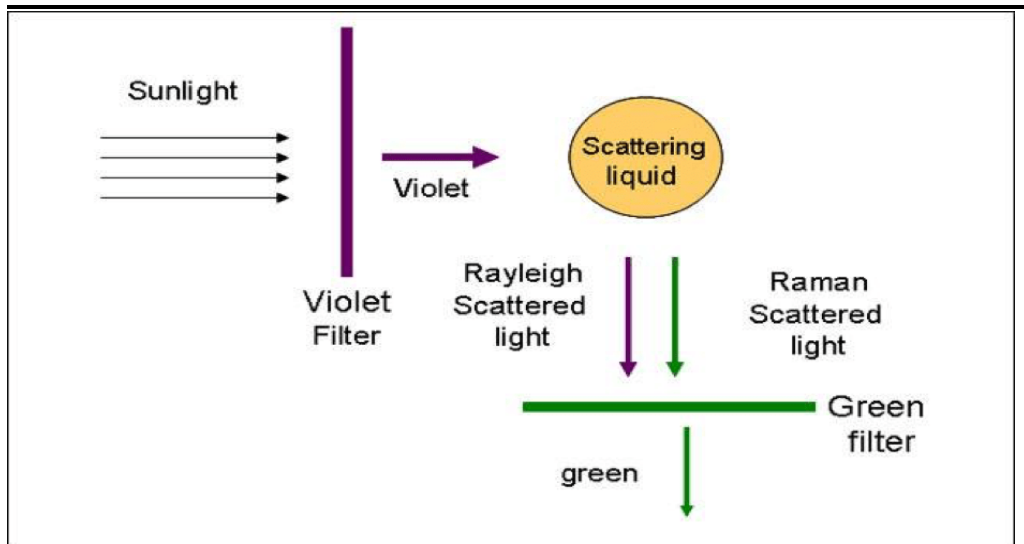
Theme: "Science and Technology for a Sustainable Future".

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 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.



SILVER COPPER TELLURIDE (AGCUTE)

Why in news?

Researchers have developed silver copper telluride (AgCuTe), a novel compound that exhibits poor thermal conductivity in the 25-425 degree C range but shows good electrical conductivity.

Details

The new material made from silver, copper, and tellurium shows high levels of thermoelectric performance that the scientists are hoping could some day be harnessed to extract electricity from waste heat of chemical, thermal, or steel power plants.

Due to the low thermal conductivity of AgCuTe, one end of the rod that is contact with waste heat remains hot while the other end maintains cold temperature. The temperature difference is essential for the generation of electrical voltage. At the same time, the material exhibits good electrical conductivity like metal.

Potential applications:

The compound, silver copper telluride (AgCuTe), shows promise as a thermoelectric material for converting waste heat into electricity. Potential applications of the thermoelectric technology are in automobile

industry, chemical, thermal and steel power plants where large quantities of heat are wasted.

FIVE TYPES OF DIABETES?

Why in news?

Scientists have unveiled a revised classification for diabetes. There are five distinct types of diabetes that can occur in adulthood, rather than the two currently recognised.

Current classification

1. With type-1 — generally diagnosed in childhood and accounting for about 10% of cases — the body simply doesn't make insulin, a hormone that helps regulate blood sugar levels.
2. For type-2, the body makes some insulin but not enough, which means glucose stays in the blood. This form of the disease correlates highly with obesity and can, over time, lead to blindness, kidney damage, and heart disease or stroke.

The new clusters are:

- Cluster 1 – severe autoimmune diabetes is broadly the same as the classical type 1 – it hit people when they were young, seemingly healthy and an immune disease left them unable to produce insulin
- Cluster 2 – severe insulin-deficient diabetes patients initially looked very similar to those in cluster 1 – they were young, had a healthy weight and struggled to make insulin, but the immune system was not at fault
- Cluster 3 – severe insulin-resistant diabetes patients were generally overweight and making insulin but their body was no longer responding to it
- Cluster 4 – mild obesity-related diabetes was mainly seen in people who were very overweight but metabolically much closer to normal than those in cluster 3
- Cluster 5 – mild age-related diabetes patients developed symptoms when they were significantly older than in other groups and their disease tended to be milder.

Significance

This is the first step towards personalised treatment of diabetes. This discovery could lead to better treatments and help doctors more accurately predict life-threatening complications from the disease.

Diabetes

Diabetes, often referred to by doctors as diabetes mellitus, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both.

CIMON (CREW INTERACTIVE MOBILE COMPANION)

Airbus, an aeronautics company based in Netherlands, is developing CIMON (Crew Interactive MOBILE CompanioN), an AI-based space assistant for Germany's DLR Space Administration.

Described by its creators as a "flying brain", this 3D-printed artificial intelligence system will soon join the crew aboard the International Space Station (ISS) to assist astronauts. It will be tested during the European Space Agency's Horizons mission this year.

Details

CIMON will be the first AI-based mission and flight assistance system. The entire structure of CIMON is made up of plastic and metal, created using 3D printing.

- CIMON has a brain-like AI network and is designed to support astronauts in performing routine work, for example by displaying procedures or offering solutions to problems. With its face, voice and artificial intelligence, becomes a genuine 'colleague' on board.

Applications: Schematic view of prescribed checklists and procedures, helps in carrying out every day routine tasks, helps to increase efficiency, facilitates mission success and improves security, as it can also serve as an early warning system for technical problems.

Anti Tank Guided Missiles (ATGM) NAG

Why in news?

Successful Flight Test of ATGM NAG was recently carried out.

Details

The missile is developed to support both mechanised infantry and airborne forces of the Indian Army.

- The missile incorporates an advanced passive homing guidance system and possesses high single-shot kill probability.

- It is designed to destroy modern main battle tanks and other heavily armoured targets.

ENVIRONMENT

DRYPETES KALAMII

It is a new plant species identified by scientists from the Botanical Survey of India from two protected National Parks in West Bengal.

Details

- It is a small shrub found to be shorter version of its close relative *Drypetes ellisii*.
- It is unisexual in nature, which means they have separate male and female plants.
- Provisionally assessed to be “Critically Endangered”.
- 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.

WORLD RHINO DAY

The Assam government will be observing September 22 as Rhino Day to generate public awareness on protection of the one-horned pachyderm.

Details

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.

CA|TS PARTNERSHIP

Why in news?

A survey of over a hundred tiger conservation areas by 11 leading conservation organisations and countries with tiger ranges that are part of the Conservation Assured | Tiger Standards (CA|TS) Partnership has found that only 13% of tiger conservation areas meet global standards.

Significant findings

At least one-third of areas surveyed are severely at risk of losing their tigers and most of these sites are in southeast Asia.

- While basic needs such as encroachment against poaching, engaging local communities and managing conflict between people and wildlife remained weak for all surveyed areas, two-thirds of the surveyed area reported fair to strong management.
- Despite poaching being one of the greatest threats faced by the big cats, 85% of the areas surveyed do not have the staff capacity to patrol sites effectively and 61% of the areas in Southeast Asia have very limited anti-poaching enforcement.

Conservation Assured | Tiger Standards (CA|TS)

CA|TS is a set of criteria which allows tiger sites to check if their management will lead to successful tiger conservation. CA|TS is organised under seven pillars and 17 elements of critical management activity. Officially launched in 2013, CA|TS is an important part of Tx2, the global goal to double wild tiger numbers by the year 2022.

- Developed by WWF and partners, the Global Tiger Forum (GTF) has endorsed CA|TS and has requested member countries to establish National Review Committees for purpose of initiating CA|TS.
- CA|TS is an important tool in the achievement of the CBD's Global Aichi Targets, in particular Aichi Target 11 and 12, and contributes to the implementation of the Programme of Work on Protected Areas, particularly the last goal related to Standards, Assessment and Monitoring.

Working

Sites taking part will initially be 'registered' (standards not yet attained) then, when all required standards are met, 'approved' (standards achieved). An approved site has achieved excellence in tiger site management. Sites are evaluated through an assessment and independent review process. Of the 13 tiger range countries Nepal, India, Bangladesh and Russia have registered and rolled out CA|TS, whilst discussion is ongoing with Bhutan, Indonesia, Thailand, Malaysia and China.

Importance

26th Feb to 7th Mar

Protected areas are a good strategy for retaining forest cover, however their role in protecting wildlife depends on the quality of management. Many studies show that tiger numbers can continue to decline in protected areas, particularly due to bushmeat (tiger prey) hunting or the poaching of tigers themselves for trophies, traditional medicines and other illegal activities.

Until CA|TS, there has not been a set of criteria which not only provide clarity on management of tiger sites, but also encourage further development and sharing of best practice across the tiger range countries.

Page | 44

NATIONAL BIODIVERSITY AUTHORITY

Expressing concern over the increase in the import of ornamental fishes to the country, which is posing a threat to India's native fish populations, the National Biodiversity Authority (NBA) has urged the government to come up with quarantine facilities at major seaports and airports.

Concern

The government of India has only approved the import of 92 species of ornamental fish but the number of ornamental fish species being imported and in trade is somewhere between 200-300. The huge market for Invasive Alien Species (IAS) is turning out to be major threat to India's aquatic biodiversity. Several studies have disclosed the occurrence of exotic ornamental fish in many inland aquatic systems, including biodiversity-sensitive areas such as the Western Ghats.

National list of Invasive Alien Species (IAS):

Under the Centre for Biodiversity and Policy and Law (CEBPOL), the NBA is trying to bring out a national list of IAS. So far, no attempt has been made by any scientific organisation to have a national IAS list across different categories. The list will be put made available on a public platform and will be communicated to different Ministries and stakeholders.

CEBPOL is a bilateral collaboration between the Indian and Norwegian governments, and focuses on biodiversity policies and laws.

NBA:

Established: 2003

Aim: to implement India's Biological Diversity Act (2002).

26th Feb to 7th Mar

Details : The NBA is a Statutory Body and it performs facilitative, regulatory and advisory functions for the Government of India on issues of conservation, sustainable use of biological resources and fair and equitable sharing of benefits arising out of the use of biological resources.

Page | 45

SECURITY CHALLENGES

SAPOSHI

It is a new malware detected by cybersecurity agencies.

Details

It is capable of taking over electronic devices and turning them into 'bots', which can then be used for any purpose, including a Distributed Denial of Service attack which, with enough firepower, can cripple entire industries.

"LAMITYE" 2018

It is the joint military exercise between the Indian Army and Seychelles People's Defence Forces being conducted in the beautiful island nation.

Details

The exercise is named "Lamitye" which in the local dialect 'Creole', means friendship. India and Seychelles have been conducting this joint exercise since 2001 with the aim of enhancing military cooperation and interoperability between the armies of the two countries.

MILAN 2018

26th Feb to 7th Mar

MILAN is a congregation of littoral navies conducted biennially by Indian Navy at the Andaman and Nicobar Islands, under the aegis of the Andaman and Nicobar Command.

Theme: 'Friendship Across the Seas'.

Aims: To showcase the rich heritage and pristine natural beauty of the Andaman and Nicobar Islands to the foreign visitors.

- Besides fostering co-operation through naval exercises and professional interactions, MILAN also provides an excellent opportunity to the participating navies to come together in a spirit of collaboration and mutual understanding to nurture stronger ties.