OUR TEAM

GENERAL STUDIES

Mr. R. C. SINHA

Mr. D.M.RAVI KUMAR

Mr. SAROJ SAMAL

Mr. TARIQUE KHAN

Mr. PRIYESH SINGH SENGAR

Mr. SATYANARAYANA

Mr. SANJAY BHARADWAJ

Dr. ATUL TRIPATHI

Mr. KOUSHIK	Mr. PRANAY AGARWAL
Mr. CHETAN PRAKASH	Mr. NIKHIL SAREEN
Mr. RAVI TEJA	Mr. UDAY SIMHA
Mr. SIVA KUMAR	Mr. VIJAY

OPTIONALS

SOCIOLOGY
Mr. SAROJ SAMAL

Public Administration

Mr. R.C. SINHA

Mr. D.M.RAVI KUMAR

MATHEMATICS
Mr. VINNAKOTA SRIKANTH

GEOGRAPHY
Mr. PRIYESH SINGH SENGAR

OTHER OPTIONALS

ANTHROPOLOGY	POLITICAL SCIENCE
TELUGU LITERATURE	HISTORY

Contents

i

Geography and Environment   25-28

Science & Technology   29 - 32

Miscellaneous

Polity and Governance

1. State governments had failed to curb stubble burning-NGT

In News:

Stating that State governments had failed to curb stubble burning, the National Green Tribunal (NGT) has directed the Chief Secretaries of Delhi, Punjab, Haryana and Uttar Pradesh to draw up a plan to provide economic incentives and disincentives to farmers.

- Stubble burning is adversely affecting environment and public health. The problem has not been fully tackled and the adverse impacts on the air quality and consequent impacts on the citizens' health and lives are undisputed.

What needs to be done- Supreme Court's observations?

- The problem is required to be resolved by taking all such measures as are possible in the interest of public health and environment protection.

- Incentives could be provided to those who are not burning the stubble and disincentives for those who continue the practice.
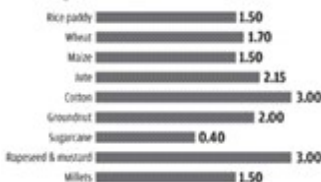
- The existing Minimum Support Price (MSP) Scheme must be so interpreted as to enable the States concerned to wholly or partly deny the benefit of MSP to those who continue to burn the crop residue.
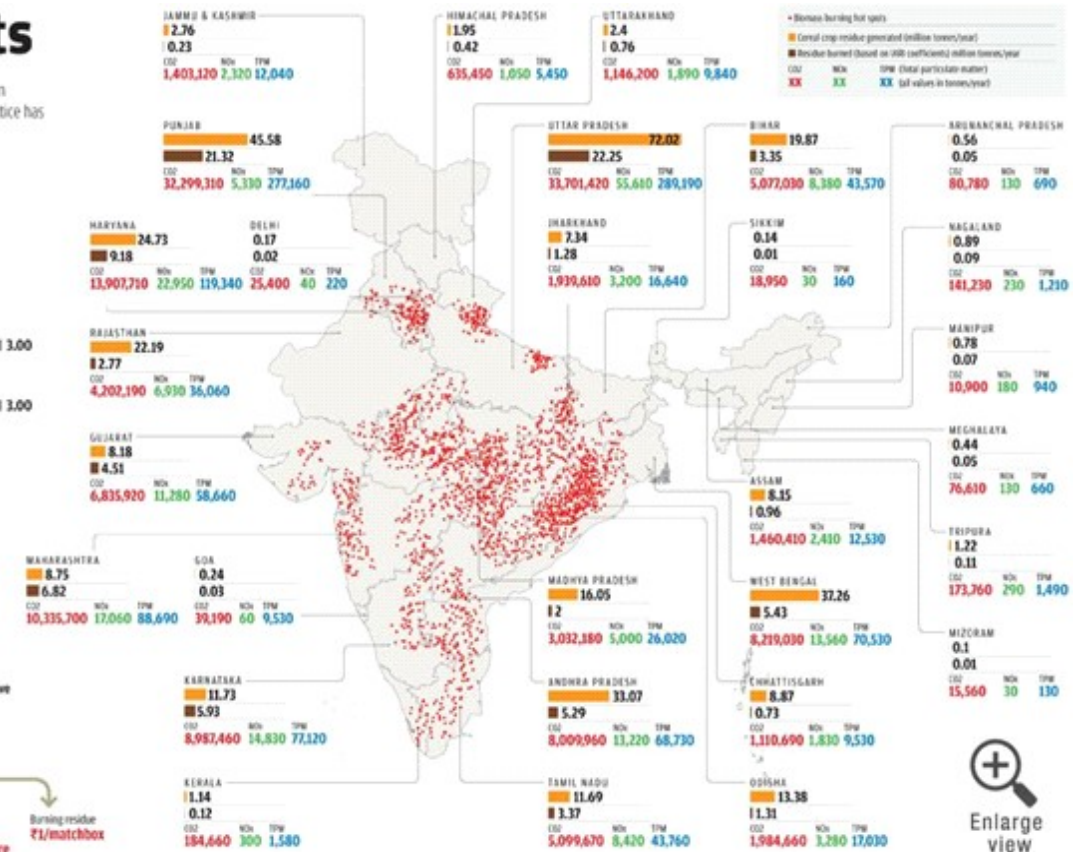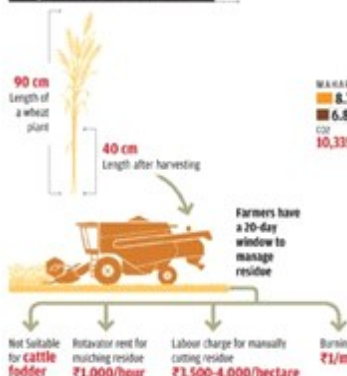
- Secretary, Union Ministry of Agriculture and Farmers' Welfare has also been directed to be present to "find a lasting solution."
- The Central government should convene a meeting with the States.

About the National Green Tribunal (NGT):

- NGT has been established under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
- **Ambit:** The tribunal deals with matters relating to the enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property.
- **Members:**
- Sanctioned strength: currently, 10 expert members and 10 judicial members (although the act allows for up to 20 of each).
- **Chairman:** is the administrative head of the tribunal, also serves as a judicial member and is required to be a serving or retired Chief Justice of a High Court or a judge of the Supreme Court of India.
- **Selection:** Members are chosen by a selection committee (headed by a sitting judge of the Supreme Court of India) that reviews their applications and conducts interviews. The Judicial members are chosen from applicants who are serving or retired judges of High Courts.
- Expert members are chosen from applicants who are either serving or retired bureaucrats not below the rank of an Additional Secretary to the Government of India (not below the rank of Principal Secretary if serving under a state government) with a minimum administrative experience of five years in dealing with environmental matters. Or, the expert members must have a doctorate in a related field.

Other facts:

The Tribunal is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

The Tribunal's dedicated jurisdiction in environmental matters shall provide speedy environmental justice and help reduce the burden of litigation in the higher courts.

The Tribunal is mandated to make and endeavour for disposal of applications or appeals finally within 6 months of filing of the same

2. Leadership for Academicians Program (LEAP)

Context:

The government has launched Leadership for Academicians Programme (LEAP) for higher education faculty.

About the Leadership for Academicians Programme (LEAP):

- Leadership for Academicians Programme (LEAP) is a three weeks Flagship leadership development training programme (2 weeks domestic and one week foreign training) for second level academic functionaries in public funded higher education institutions.

- The main objective is to prepare second tier academic heads who are potentially likely to assume leadership roles in the future.

- The programme would provide senior faculty, with high academic credentials, the required leadership and managerial skills including skills of problem-solving, handling stress, team building work, conflict management, developing communication skills, understanding and coping with the complexity and challenges of governance in HEIs, financial & general administration.

- The implementation of LEAP Programme will be through 15 NIRF top ranked Indian Institutions namely. The foreign Universities identified for the training are also within the top 100 in the world global rankings.

3. Annual Refresher Programme in Teaching (ARPIT)

Context:

The Centre has launched Annual Refresher Programme in Teaching (ARPIT) for higher education faculty.

About Annual Refresher Programme in Teaching (ARPIT):

- Annual Refresher Programme in Teaching (ARPIT) is a major and unique initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM.

- For implementing ARPIT, 75 discipline-specific institutions have been identified and notified as National Resource Centres (NRCs) in the first phase, which are tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.

- ARPIT will be an ongoing exercise so that every year NRCs will continuously develop new refresher module in their earmarked discipline each year. The training materials will be uploaded and made available through SWAYAM.

- NRC will publish the list of the faculty who have been certified. The NRCs will revolutionize professional development of faculty by catering to massive numbers by leveraging ICT and online technology platform of SWAYAM.

- NRCs are located in a mixed range of institutions such as, Central Universities, IISc, IUCAA, IITs, IISERs, NITs, State Universities under the Ministry's Pandit Madan Mohan Malaviya National Mission on

Teachers and Teaching (PMMMNMTT); UGC's Human Resource Development Centres (HRDCs), National Institutes for Technical Teachers Training (NITTTRs), IIITs and IGNOU.

4.   National body set up to study Monogenic diabetes

Context:

A National Monogenic Diabetes Study Group has been formed to identify cases of monogenic diabetes across the country. Supported by the Indian Council of Medical Research (ICMR), the Madras Diabetes Research Foundation (MDRF) and Dr. Mohan's Diabetes Specialities Centre (DMDSC) will be the national coordinating centre for the study group.

- Monogenic diabetes is a group of disorders where mutation of a single gene causes diabetes; the three commonest forms being – Maturity Onset Diabetes of the Young (MODY), Neonatal Diabetes Mellitus (NDM) and Congenital Hypoglycaemia.

- Monogenic diabetes is usually passed on in an autosomal dominant gene, (a sex independent gene that's inherited from one of the parents). This means only one copy of the mutation is needed to develop diabetes.

- There is usually a strong family history of diabetes and in multiple generations, (although it's possible for someone to have a spontaneous mutation). Diagnosis, therefore, involves genetic testing for these diabetes-causing gene mutations that disrupt insulin production.

- Monogenic diabetes patients are also usually antibody negative, (though there are cases where low levels of antibodies have been detected). Once treatment for the diabetes begins, the antibodies usually resolve.

- In addition to blood sugar issues, some of the forms of Monogenic diabetes involve metabolic issues such as:

a. Growth problems.

b. Impaired glycogen storage in the liver.

c. Impaired fatty acid metabolism.

d. Exocrine pancreatic insufficiency.

5.   Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme

Context:

To cater to the needs and aspirations of the youth, the National Cooperative Development Corporation (NCDC) has come up with a youth-friendly scheme 'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme" for attracting them to cooperative business ventures.

- The scheme would encourage cooperatives to venture into new and innovative areas.

- NCDC has created a dedicated fund with liberal features enabling youth to avail the scheme. The scheme will be linked to Rs 1000 crore 'Cooperative Start-up and Innovation Fund (CSIF)' created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members.

- The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible.

About NCDC:

- National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as a statutory Corporation under Ministry of Agriculture & Farmers Welfare. It has many regional centres to provide the financial assistance to Cooperatives /Societies / Federations.

6. Young Champions Awards

Context:

NITI Aayog's Atal Innovation Mission and UNICEF have announced Young Champions Awards on occasion of Children's Day.

- The awards were presented to the top six most innovative solutions from across the country, which were shortlisted through the Atal Tinkering Marathon.

- On October 2 last year, AIM's Atal Tinkering Labs (ATL) had launched a six month long nationwide challenge called the Atal Tinkering Marathon, across six different thematic areas, namely, clean energy, water resources, waste management, healthcare, smart mobility and agri-technology. The objective was to encourage students to observe community problems and develop innovative solutions.

What are ATLs?

- With a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India.

- **Objective:** The objective of this scheme is to foster curiosity, creativity and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.

- **Financial Support:** AIM will provide grant-in-aid that includes a one-time establishment cost of Rs. 10 lakh and operational expenses of Rs. 10 lakh for a maximum period of 5 years to each ATL.

- **Eligibility:** Schools (minimum Grade VI – X) managed by Government, local body or private trusts/society can set up ATL.

Significance of ATLs:

- Atal Tinkering Labs have evolved as epicenters for imparting these 'skills of the future' through practical applications based onself-learning.

- Bridging a crucial social divide, Atal Tinkering Labs provide equal opportunity to all children across the spectrum by working at the grassroot level, introducing children to the world of innovation and tinkering.

Need for such labs:

- As the world grapples with evolving technologies, a new set of skills have gained popular acceptance and have come to be in high demand. For India to contribute significantly during this age of raid technological advancement, there is an urgent need to empower our youth with these 'skills of the future'.

- Equipped with modern technologies to help navigate and impart crucial skills in the age of the Fourth Industrial Revolution, the ATLs are at the vanguard of the promoting scientific temper and an entrepreneurial spirit in children today.

7. UP cabinet approves renaming of Faizabad as Ayodhya, Allahabad as Prayagraj

Context:

Uttar Pradesh Government has approved renaming of Faizabad and Allahabad divisions as Ayodhya and Prayagraj respectively.

- Now, the proposal will now go to Central before the city is officially renamed.

Justification for name change:

- Allahabad's ancient name was 'Prayag', but was changed after 16th-century Mughal emperor Akbar built fort near 'Sangam', the holy confluence of three rivers viz. Ganga, Yamuna and Saraswati. Akbar named the fort and its neighbourhood 'Ilahabad'.

- Later, Akbar's grandson Shah Jahan renamed the entire city as 'Allahabad'. But the area near the 'Sangam', the site of the Kumbh Mela, continues to be known as 'Prayag'.

- Ayodhya has been associated with Lord Ram and is known as his birth place. Ayodhya has been the capital of various dynasties, including the Ikshvaku dynasty of which Lord Ram is a descendent.

8.   Himalayan State Regional Council

Context:

NITI Aayog has constituted the 'Himalayan State Regional Council' to ensure sustainable development of the Indian Himalayan region.

About the Council:

- **Composition:** The Himalayan State Regional Council will be chaired by the Dr VK Saraswat, Member, NITI Aayog and will consist of the Chief Secretaries of the Himalayan States as well as the Secretaries of key Central Ministries, senior officers of NITI Aayog as well as special invitees.

- **Objective:** The Council has been constituted to review and implement identified action points based on the Reports of five Working Groups, which were established along thematic areas to prepare a roadmap for action.

- **Functions:** The Himalayan States Regional Council will be the nodal agency for the Sustainable development in the Himalayan Region which consists of the twelve States namely Jammu &Kashmir, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, two districts of Assam namely Dima Hasao and KarbiAnglong and Darjeeling and Kalimpong in West Bengal.

- The terms of reference of the Council states that it shall monitor the implementation of action points for Central Ministries, Institutions and 12 Himalayan State Governments in Indian Himalayan Region which include river basin development and regional cooperation, spring mapping and revival across Himalayas in phased manner for water security; develop, implement and monitor tourism sector standards as well as bring policy coherence, strengthen skill & entrepreneurship with focus on identified priority sectors, among other action points.

Background:

- Recognizing the uniqueness of the Himalayas and the challenges for sustainable development, Five Working Groups were constituted by NITI Aayog on June 2, 2017. The five thematic reports were released by the NITI Aayog in August, 2018 and framed the action points for the Terms of Reference of the Council constituted.

These Working Groups were tasked with preparing a roadmap for action across five thematic areas namely:

- Inventory and Revival of Springs in Himalayas for Water Security

- Sustainable Tourism in Indian Himalayan Region.

- Shifting Cultivation: Towards Transformation Approach.

- Strengthening Skill & Entrepreneurship (E&S) Landscape in Himalayas.

- Data/Information for Informed Decision Making.

9. Aadi Mahotsav

Context:

"Aadi Mahotsav" a National Tribal Festival is being organized in New Delhi by the Ministry of Tribal Affairs and TRIFED to celebrate, cherish and promote the spirit of tribal craft, culture, cuisine and commerce.

- The theme of the festival is: "A Celebration of the Spirit of Tribal Culture, Craft, Cuisine and Commerce".

About Aadi Mahotsav:

- The Mahotsav will comprise of display and sale of items of tribal art and craft, tribal medicine & healers, tribal cuisine and display of tribal folk performance, in which tribal artisans, chefs, folk dancers/ musicians from 23 States of the country shall participate and provide glimpse of their rich traditional culture.
- The festival will feature exhibition-cum-sale of tribal handicrafts, art, paintings, fabric, jewellery and much more through 100 stalls. Over 200 tribal artisans and artists from different States creating a Mini-India will be participating in the festival.

Significance of the event:

- As the name of this event Aadi Mahotsav suggests, it is it's 'Adi' factor that is important about them. The Adivasi way of life is guided by primal truths, eternal values and a natural simplicity.
- The greatness of the tribes lies in this that they have managed to retain the primal skills and natural simplicity. Their creations issue from the depths of time. This quality gives their arts and crafts a timeless appeal. The crudest tribal handicraft instantly touches a primal instinct in all of us. This is particularly true in tribal music and dance.

10. Swadesh Darshan Scheme

Context:

Two important projects under Swadesh Darshan Scheme of Ministry of Tourism, Government of India have been inaugurated at PTSO Lake in Tawang, Arunachal Pradesh.

- These projects are "Development of North East Circuits: Bhalukpong-Bomdila – Tawang Project & Nafra- Seppa- Pappu, Pasa, Pakke Valleys-Sangdupota- New Sagalee- Ziro- Yomcha Project".

About Swadesh Darshan Scheme:

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

Features of Swadesh Darshan Scheme:

- The scheme is 100% centrally funded for the project components undertaken for public funding.

- To leverage the voluntary funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.

- Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by PMC (Programme Management Consultant).

- A National Steering Committee (NSC) will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.

- A Mission Directorate headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.

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

11. NIPUN

Context:

Delhi Police has launched an e-learning portal 'Nipun' to impart training and provide up to date information to police officers.

NIPUN:

- The initiative is aimed at imparting in-service online training and information to police personnel through specialised courses available online which have been designed by experts in various fields.

- The online courses on this portal have been designed in collaboration with University Grant Commission (UGC), FICCI, NHRC, NCPCR and Janaki Devi Memorial College, Delhi University under project CLAP "The Collaborative Learning and Partnership".

- It will have online courses and resources on law, standing orders, investigation checklists, forms for case files, latest High Court and Supreme Court rulings. It is envisioned that Investigating Officers (IOS) will be able to take benefit of this information during course of their duty or while handling case.

- **Significance:** Through this portal Delhi Police officers can now access information by just logging on the portal. They can take course from anywhere at any time. It will make easier for the police officer to upgrade their skills and re-enforce their learning while balancing training time along with their daily routine work.

International Relations

12. ISPRL, ADNOC sign MoU to explore storage of crude oil at Padur

Context:

The Indian Strategic Petroleum Reserves Ltd (ISPRL) has signed a Memorandum of Understanding (MoU) with the Abu Dhabi National Oil Company (ADNOC) in Abu Dhabi to explore the possibility of storing ADNOC crude oil at ISPRL's underground oil storage facility at Padur in Karnataka, which has a 2.5 million tonne capacity. Under the agreement, ADNOC is expected to store crude in compartments at Padur.

- ISPRL is an Indian government-owned company mandated to store crude oil for emergency needs.
- ADNOC is the only foreign oil and gas company, so far, to invest by way of crude oil in India's strategic petroleum reserves program.

Benefits of the agreement:

- India is an important oil market and the MoU underscores the strategic energy partnership between the UAE and India that leverages the UAE and ADNOC's expertise and oil resources.
- The agreement will allow ISPRL to explore, with ADNOC, opportunities related to the possible storage of ADNOC crude at Padur, which would help to significantly strengthen the country's strategic petroleum reserves.
- It also reflects the strong bonds of cooperation between India and the UAE and provides a foundation for strengthening and expanding the strategic energy relationship between the two nations.

13. Indian Ocean Naval Symposium (IONS)

Context:

The 10th anniversary celebrations of the Indian Ocean Naval Symposium (IONS) are being held in Kochi.

- The commemorative Special Cover of IONS 10th Anniversary celebrations depict a map of the Indian Ocean and littoral countries of the IOR, signifying the geopolitical importance of the region.

About IONS:

- IONS, the 21st century's first significant international maritime security initiative launched in February 2008, provides a forum for discussion of regional maritime issues and promotes friendly relationships among member nations. It presently has 24 members and eight observer navies.
- It is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region by

providing an open and inclusive forum for discussion of regionally relevant maritime issues and, in the process, endeavors to generate a flow of information between naval professionals that would lead to common understanding and possibly agreements on the way ahead.

- Under the charter of business adopted in 2014, the grouping has working groups on Humanitarian Assistance and Disaster Relief (HADR), Information Security and Interoperability (IS&I) and anti-piracy now renamed as maritime security.

14. India votes against UNGA draft resolution on use of death penalty

Context:

India has voted against a United Nations General Assembly draft resolution on the use of death penalty, saying it goes against the statutory law of the country where an execution is carried out in the "rarest of rare" cases.

- The draft resolution, taken up in the Third Committee (Social, Humanitarian, Cultural) of the General Assembly was approved with a recorded vote of 123 in favour, 36 against and 30 abstentions.

- The draft aimed to ensure that it is not applied on the basis of discriminatory laws or as a result of discriminatory or arbitrary application of the law.

- The resolution sought to promote a moratorium on executions with the aim of abolishing death penalty.

- India was among the countries that voted against the resolution, which would have the Assembly call on all States to respect international standards on the rights of those facing death penalty.

- India has voted against the resolution as a whole, as it goes against statutory law in India. The death penalty is exercised in 'rarest of rare' cases, where the crime committed is so heinous that it shocks the conscience of the society.

- Indian law provides for all requisite procedural safeguards, including the right to a fair trial by an independent Court, presumption of innocence, the minimum guarantees for defence, and the right to review by a higher court.

15. East Asia Summit

Context:

13th East Asia Summit is being held in Singapore. India has been participating in the EAS since its very inception in 2005.

About East Asia Summit:

- The East Asia Summit (EAS) is a forum held annually by leaders of, initially, 16 countries in the East Asian, Southeast Asian and South

EAST ASIA SUMMIT (EAS) MEMBER NATIONS

Asian regions. Membership expanded to 18 countries including the United States and Russia at the Sixth EAS in 2011.

- EAS meetings are held after annual ASEAN leaders' meetings. The first summit was held in Kuala Lumpur, Malaysia on 14 December 2005.

- EAS is an initiative of ASEAN and is based on the premise of the centrality of ASEAN.

- EAS has evolved as a forum for strategic dialogue and cooperation on political, security and economic issues of common regional concern and plays an important role in the regional architecture.

- There are six priority areas of regional cooperation within the framework of the EAS. These are – Environment and Energy, Education, Finance, Global Health Issues and Pandemic Diseases, Natural Disaster Management, and ASEAN Connectivity. India endorses regional collaboration in all six priority areas.

Evolution of EAS:

- The concept of an East Asia Grouping was first promoted in 1991 by the then Malaysian Prime Minister, Mahathir bin Mohamad. The final report of the East Asian Study Group in 2002, established by the ASEAN+3 countries (i.e. China, Japan and ROK), recommended EAS as an ASEAN led development limited to the ASEAN +3 countries.

- However, the ASEAN Ministerial Meeting (AMM) held in Vientiane on July 26, 2005 welcomed the participation of ASEAN, China, Japan, Republic of Korea, Australia, India and New Zealand, in the first EAS. USA and the Russian Federation were formally included as members of the EAS at the 6th EAS held in Bali, Indonesia on 19 November 2011.

16. World Customs Organisation (WCO)

Context:

A regional meeting of World Customs Organisation (WCO) was held recently in Jaipur, Rajasthan.

- The meeting deliberated upon various issues including the steps required for the capacity building and reforms in customs.

- It also discussed and deliberated upon amended Kyoto protocol, digital customs, e-commerce among other issues.

- Summary of various efforts made by National Trade Facilitation Committee (NTFC) for trade facilitation was also tabled in the meeting.

World Customs Organisation (WCO):

- WCO is independent intergovernmental body whose mission is to enhance effectiveness and efficiency of Customs administrations. It was established in 1952 as Customs Co-operation Council (CCC). It is the only international organization with competence in Customs matters and is considered as voice of international Customs community.
- It is headquartered in Brussels, Belgium.
- **Composition:** It represents 182 Customs administrations across the globe that collectively process approximately 98% of world trade.
- **Functions:** It plays leading role in discussion, development, promotion and implementation of modern customs systems and procedures. It offers range of Conventions and other international instruments, as well as technical assistance and training services to its members. It also actively supports its members in their endeavours to modernize and build capacity within their national Customs administrations.
- **Objectives:** It aims to enhance efficiency and effectiveness of member customs administrations and assist them to contribute successfully to national development goals, particularly revenue collection, national security, trade facilitation, community protection, and collection of trade statistics.

17. Network for Development of Agricultural Cooperatives in Asia and the Pacific (NEDAC)

Context:

Meeting of General Assembly of Network for Development of Agricultural Cooperatives in Asia and the Pacific (NEDAC) is being held in New Delhi.

- The general assembly of 22 prominent cooperative organizations from eight countries unanimously decided to focus on C2C and capacity development to meet challenges of climate change as transformative cooperatives.

About NEDAC:

- NEDAC was set up in 1991 by the United Nations' Food and Agriculture Organisation (FAO), the International Cooperative Alliance (ICA) and the International Labour Organisation (ILO).
- NEDAC sensitises Governments in the region on the role of agricultural cooperatives in promoting agricultural and rural development to ensure rural food and livelihood security for millions of people in Asia and Pacific.

Economy

18. Independence of RBI

The Reserve Bank of India (RBI) and the government give the impression that they are not on the same page even as far as an understanding of their roles is concerned. The RBI suggests that its independence is being violated while the government rationalises its intervention in terms of its concern for the economy.

Defining autonomy From the Side of Central bank or from the Government:

- The idea of central bank independence began to germinate some two decades ago, this was understood to mean a 'functional' independence. That is, the bank would be unconstrained by the government in its functioning, which includes both the instruments it uses and how it uses them.

- However, its autonomy was not to extend to 'goal' independence. What the goals of the central bank should be were to be chosen by the government without reference to the bank.

- The main issue here was whether the bank should focus on inflation alone or also on the level of employment. Within a decade of this debate, it had been conceded that the focus would be exclusively on the former, and monetary policy came to be identified with 'inflation targeting'.

Where Does RBI Stand in Terms of Autonomy?

- According to a paper published in the International Journal of Central Banking in 2014, RBI was listed as the least independent among 89 central banks considered under the study. These rankings are likely to have improved since the adoption of inflation targeting in February 2015 and formation of Monetary policy committee in October 2016.

- However, vacancies in RBI's board and government's reluctance to fill them up raises questions about the decisions taken and whether proper deliberations on those decisions are being held. During the previous government, a Financial Sector Legislative Reforms Commission was formed which made various recommendations to cut down RBI's powers.

- In 2013, a financial sector monitoring body, called Financial Stability Development Council was established which was to be chaired by the Finance Minister.In essence, the RBI Act 1934, does not empower RBI absolute autonomy. However, it does enjoy some independence when it comes to performing its regulatory and monetary functions

What is the RBI aggrieved about?

- One, the Reserve Bank of India wants more powers over regulating public sector banks (PSBs).
- Two, it feels that the government should not dictate the quantum of its surplus that can be paid as annual dividend.
- And three, it is miffed that the Centre has suggested a separate payments regulator.

RBI Governor Urjit Patel told a parliamentary panel in June that it does not have enough powers over PSBs. But the RBI does have nominee directors on bank boards. It leads physical inspection at banks and financial audits. It has also orchestrated mergers between banks whenever a bank has been on the verge of collapse (for instance, Global Trust Bank merged with Oriental Bank of Commerce).So, the RBI does have adequate control over PSBs but may not be exercising it fully.

Way Forward:

- The government's concern for the health of the medium and small enterprises is well-founded.
- After all, they were among the most affected sections following the demonetisation of 2016.
- If, in the spirit of contriteness as it were, the government wants to reach out to them, the right course would be to provide interest rate subvention, rather than to force the RBI to tweak its lending norms.
- There is a severe lack of judgment in loan melas promising online sanction in less than an hour. There is the suggestion in this of the political business cycle, a government trying to nudge the economy prior to an election.
- The resistance of the RBI to this desperate action should be understandable.

Conclusion:

- Monopoly of interpretation and choice of instruments of intervention would always, in an uncertain economy, continue to be a matter of debate.
- There is need to pay due regard to both autonomy and accountability. There has to be a forum within our democratic structure where the RBI is obligated to explain and defend its position.
- Different countries have taken different routes and by and large each model is appropriately tuned to their specific contexts.
- The oft-quoted US example is a good model to work upon.
- Presentation by the chairman of the Federal Reserve to the Congress makes for public exposure and transparency but does not take away the chairman's autonomy.

- We need an appropriate and structured forum to strike a balance between unrestrained autonomy and blatant political intervention.

19. Central Board of the RBI

Context:

The RBI Board recently entered the news during the public spat between the central bank and the Finance Ministry. One of the reasons for the disagreement was the government's alleged threat of invoking Section 7 of the RBI Act.

- Section 7 basically empowers the government to supersede the RBI Board and issue directions to the central bank if they are considered to be "necessary in public interest".

What is the RBI Board?

- The RBI Board is a body comprising officials from the central bank and the Government of India, including officials nominated by the government.

- According to the RBI, the "general superintendence and direction of the affairs and business of the RBI is entrusted to the Central Board" and the Board exercises all powers and does all acts and things that are exercised by the RBI.

- The Board is also to recommend to the government the design, form and material of bank notes and also when and where they can serve as legal tender.

Who sits on the Board?

- The Board consists of official directors, who include the Governor and up to four Deputy Governors, non-official directors, who include up to ten directors from various fields and two government officials, and one director from each of four local boards of the RBI.

- The Governor and Deputy Governors hold office for not more than five years, the ten directors nominated by the government hold office for four years, and the government officials are to hold a term on the RBI Board as long as the government sees fit.

- According to the RBI Act, the director of the RBI Board cannot be a salaried government official (except for the ones specifically nominated by the government), be adjudicated as insolvent or have suspended payments to creditors, an officer or employee of any bank (again, this does not include the government nominee), or, interestingly, "is found lunatic or becomes of unsound mind".

When does the Board meet?

- The Governor has to call a Board meeting at least six times in a year, and at least once each quarter. A meeting can be called if a minimum of four Directors ask the Governor to call a meeting.

- The Governor or, if for any reason unable to attend, the Deputy Governor authorised by him to vote for him, presides the Board meetings. In the event of split votes, the Governor has a second, or deciding vote

20. Is Reserve Bank of India hoarding too much capital?

Context:

The battle between the Central Government and RBI is growing regarding whether the Reserve Bank of India (RBI) holds too much capital in its balance sheet has become the vortex of an unexpectedly heated public debate.

What had happened?

- The battle is being fought at a time when the balance sheet of the Indian central bank has nearly trebled in size over the past decade—from ₹ 14.08 trillion in fiscal year 2009 to ₹ 36.18 trillion in fiscal year 2018.

- As a share of the gross domestic product (GDP), the size of RBI's balance sheet has remained stable over the years, data shows.

- Most of the expansion in the RBI's balance sheet has come from the sharp increase in the rupee value of foreign securities held by RBI, as the Indian central bank, has built up forex reserves for protection against global financial shocks.

Chart 1
RBI's balance sheet has been expanding, but its size to GDP remains stable

Chart 2
After peaking in 2012-13, revaluation reserves as a share of RBI's forex and gold holdings have declined slightly

Chart 3
RBI's contingency funds have barely grown even as revaluation reserves have grown over the past decade

Source: RBI annual reports

Arun Jaitley, (top) finance minister, and finance ministry representatives on RBI board Subhash Garg, secretary DEA (bottom left) and Rajiv Kumar, secretary DFS (bottom right)

Urjit R. Patel (top) RBI governor and RBI deputy governors Viral V. Acharya (bottom left) and N.S. Vishwanathan (bottom right)

Asset and Liabilities side of the Balance sheet of RBI:

- The liabilities side of a central bank balance sheet is dominated by equity, reserves and bank notes issued.

- The logic of balance sheets demands an increase in liabilities to match the increase in assets.

- Most central banks have rapidly expanded their balance sheets in the past decade and, thus, liabilities as well.

- However, the rise in the assets side of the RBI balance sheet because of the purchase of foreign currency bonds is qualitatively different from the rise in the assets held by, say, the US Federal Reserve, which bloated its balance sheet through the purchase of domestic securities for monetary expansion through quantitative easing.

- A central bank such as RBI that mostly holds foreign securities faces fundamentally different risk management challenges than a central bank such as the US Federal Reserve that mostly owns domestic securities.

- Simple global comparisons of central bank capital can be quite misleading for this reason.

Reserves of RBI:

RBI maintains two major types of reserves.

1. Revaluation Fund
2. Contingency Reserves

1. Revaluation Fund:

- The first reserve is the revaluation fund, which has to be adjusted depending on the changes in the value of the dollar and gold portfolios. This is a standard accounting requirement.

- A sharp depreciation of the rupee or a fall in international gold prices will eat into these reserves. Most of the reserves that RBI holds are in the form of revaluation reserves.

- They have moved in tandem with the increase in foreign exchange plus gold holdings.

- As a share of the RBI's forex and gold reserves, revaluation reserves have declined slightly in recent years.

2. Contingency Reserves:

- The second category of reserves is the contingency reserves needed for the Indian central bank to conduct its usual functions.

- Two-thirds of the reserves in the RBI balance sheet are accounting entries while only one-third is capital that can actually be deployed.

- RBI is one of the most under-capitalized central banks in the world if only contingency reserves are considered.

- As the accompanying chart shows, almost all the increase in RBI's capital base in the post-crisis era is because of revaluation rather than contingency reserves.

- The latter has been more or less constant over the past six years, a far cry from the view that the Indian central bank has been hoarding capital.

Way Forward:

- Every country has its own way of handling the issue of central bank capital.

- For example, the Bank of Korea is not only legally bound to transfer 30% of its annual profits to statutory reserves but also has a right to call for more capital from the South Korean government when it feels the need to bolster its balance sheet.

- The Singapore constitution says that the Monetary Authority of Singapore has the responsibility to safeguard accumulated reserves which were not added during the term of the current government.

- India need not copy any of these specific provisions, but the ongoing debate shows that a more formal framework is desperately needed.

- The Reserve Bank of India Act, 1934, is vague on what has now become a political flashpoint. It is now time for more legal clarity on central bank capital, which needs an informed debate rather than hasty action.

21. Open Banking: The newest entrant to the Sector.

Open Banking is an evolving concept and practice. It permits trusted third parties to access a consumer's banking data to create innovative products and services. Open banking is the opening up of bank financial data, with consumer consent, to third parties, and is fundamentally changing the retail banking landscape across the globe. In India, too, open banking has made its presence felt through the government's Unified Payments Interface (UPI).

- It has opened up a whole new world of opportunity for retailers, one that goes beyond mere marketing or advertising. For example Uber, wherein consumers can hail a cab, get to their destination, and get payments done seamlessly in one app via the wallet or through an online banking transaction. The Indian banking customer, who is enjoying world-class customer experience across sectors like retail, entertainment, ride hailing and travel, can look forward to the best in banking and fintech services.

- Every conversation a bank has with its (potential) customer is a business moment for it to create a memorable customer experience. Open banking converts such business moments into customer experiences by leveraging open APIs, the intelligent conduit that allows for the seamless flow of data using open source technologies.

- Beneficial to SMEs and their lending parties: It would enable lenders to obtain and analyse detailed transaction data for efficient credit assessments and accurate risk decisions. It also prevents preferential

pricing and pre-emptive pricing leading to a fair price for the borrowing SMEs.

- Placing customers at the center of the value chain: Open banking has reengineered the banking landscape thus accelerating the transparency, innovation and a greater choice for customers, thus driving banks, both incumbents and innovators alike, to place customers at the center of the value chain and hence advancing a new era of customer centricity. This leads to data powered and personalised product offers which are attractively tailored to suit customer needs.

Open banking and the Elephant in the Room:

- The idea is to collate everything to a single glance screen to help you plan, save and budget your finances through an app. There are high possibilities of these FinTech apps being hacked. Who is liable – the banks or the third party apps? Finding the truth would be a lot of running around.

- There will be a lot of vulnerabilities and bugs leading to software patches and 'improved' versions. The users will never be aware of it. They will only know of the colorful branding and app designs. Even the FinTechs would not know of it unless it is illuminated by the hackers, thus darkening the lives of users, the unassuming lab rats.

- Consider the above problems with the eventual complexities like Joint account holders, Countries, Geographies and Laws of State, System maintenance. The problem then gets compounded. For instance, a system is vulnerable to hacks when under maintenance. This is when the hackers hound around the no man's land. Somebody ploys a hack when all these organisations are under maintenance at the same time, now who is to blame?

- Align it with recent problems like Brexit and GDPR. Now it is problem squared. In countries like USA, each state law differs from the other and during a dispute, the state's law holds more power than the center's one. Now it is problem cubed.

- Now when the account holdee is in one country and functions his open banking services in another country, how do we account for this? How about Joint account holdees in different countries and/ or different citizens?

- Besides there is a gaping hole for criminal activities and black money hoarding. This is problem to the power of n, and so on, and so forth.

- We will be witness to a hoard of rash copycat websites posing as the consenting third party app, with strikingly similar websites and app names. This is a challenge many will fall prey to. This is easy access to customer money.

Millennial Mindset and Regulatory Compliances – Change Gears!

- Open banking comes as a pleasantly surprising challenge, even to the millennial. People tend to take it with a grain of salt because of the abstract laws.
- Open Banking would give a competitive edge based on the bank's ability to manage risks, compliance, and customer needs. Hence, Open Banking is certainly a benediction which would gain traction in no time.

22. Indian Health Fund

Context:

Tata Trust and The Global Fund backed Indian Health Fund (IHF) has chosen four innovators for early detection of tuberculosis (TB), malaria to effectively tackle these eradicate diseases.

- The aim for selecting these innovators aims at leveraging technology for improving early detection and prompt treatment along with promoting diagnostics feasible for primary health care facilities.
- It also aims to supporting national efforts to effectively tackle eradicate these diseases which is crucial health challenges in India.
- Government has set a target of eliminating TB by 2025 and malaria by 2030. India contributes to 27% of the global TB burden and 68% of all malaria cases in the Southeast Asia region

What is Indian Health Fund (IHF)?

- IHF was launched in 2016 by Tata Trusts in collaboration with The Global Fund, to drive innovations towards key infectious disease challenges in India.
- It supports individuals and organisations with already germinated innovative strategies, services, products, such that they become sustainable and scalable solutions in addressing TB and malaria.
- The initiative is a long-term exercise aligned with country's goal of eliminating TB by 2025 and malaria by 2030. It will promote innovative solutions such that they are widely accessible and are affordable.

23. New index to check ease of doing agri-business

Context:

The centre is planning to develop an online dashboard to track State performances and the Index will be rolled out in January 2019.

Ease of Doing Agri-Business Index:

- The new Ease of Doing Agri-Business Index will rank the States on the basis of reforms in the sector as well as their investment in agriculture, increased productivity, reduction of input costs, and risk mitigation measures.

- The Agri Ministry will consider rewarding the higher performing States both in absolute and incremental terms by linking the performance with allocation from flexi funds made available in various flagship.
- The proposed index will focus on reforms, with marketing reforms (25%) and governance and land reforms (20%) carrying almost half of the weight of the parameters in its scoring system.

Parameters:

- The parameters are process-oriented, and are meant to evolve as and when new reforms or initiatives are proposed.
- Another major parameter which States will be rated on is their success in reducing the cost of farm inputs (20%) by distributing soil health cards and encouraging organic farming and micro-irrigation.
- Risk mitigation measures such as crop and livestock insurance carry a 15% weightage, while increased productivity and investment in agriculture carry a 10% weight each.

Way ahead:

- As agriculture is a State subject, the success of policies and reform initiatives proposed at the Centre is dependent on implementation by the States. To ensure that reform agenda of the government is implemented at a desired pace by all State governments, there is a need to develop a competitive spirit between the States.

24. Global Digital Content Market 2018

Context:

The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, is hosting a conference on Global Digital Content Market (GDCM)2018.

Key facts:

The conference will feature sessions on music, film, broadcasting and publishing, as well as collective management, emerging models and the implications for the market and policy makers.

India has been chosen as a host nation for the conference by World Intellectual Property Organization (WIPO) due to the strong creative industry in the country in films, music and media.

The focus for this year's conference is the Asia Pacific region.

About Global Digital Content Market (GDCM) 2018:

GDCM is a platform to discuss vital issues and enhance development of the digital and IP generating industries such as publishing, films, music, and gaming all of which are major contributors to the Indian GDP.

The GDCM 2018 will see participation of professionals from various creative fields, the digital industry around the world and delegates of the diplomatic

community from Missions to the United Nations.

The aim of GDCM 2018 is to give industry stakeholders a platform to come together and discuss new avenues in the films, music, gaming and creative industry along with points of challenge that is presented due to the changing creative landscape because of the disruption brought about by digital technologies.

25. Rs 75 commemorative coin to mark anniversary of Tricolour hoisting by Bose

Context:

The Union Ministry of Finance has decided to release Rs 75 commemorative coin on the occasion of 75th anniversary of the hoisting of Tricolour for the first time by Netaji Subhash Chandra Bose at Port Blair.

Hoisting of Tricolour:

- During his visit to Andaman in on December 30, 1943, Subhash Chandra Bose hoisted the Tricolor for the first time at Cellular Jail of Port Blair, much before India attained Independence declaring the island as the free territory from the British rule.

- On the same occasion, he announced the freedom of Andaman & Nicobar Islands, the first Indian Territory, from the British rule. The island at that time was liberated from British rule by Japan which captured it during the World War – II.

- Bose named Andaman Island as Shaheed and Nicobar Island as Swaraj and appointed INA General AD Loganathan as the governor of the Islands. Azad Hind Government was not merely a Government in Exile anymore but had its own land, own currency, civil code and stamps.

Geography and Environment

26. UNESCO Asia-Pacific award for conservation

Context:

UNESCO Asia-Pacific Awards for Cultural Heritage Conservation have been announced.

Various awardees:

- ➤ **Award of Distinction:** Restoration of LAMO Center from a state of partial ruin in Ladakh.
- ➤ **Honourable Mention:** Rejuvenation of iconic Rajabai Clock Tower and Ruttonsee Muljee Jetha Fountain in Mumbai, along with a project in China.
- ➤ **Award of Excellence:** Shijo-cho Ofune-hoko Float Machiya, of Kyoto, Japan.
- New Design in Heritage Contexts: Kaomai Estate 1955, Chiang Mai (Thailand) and Harts Mill, Port Adelaide, (Australia).
- Mumbai has won 19 recognitions since the inception of the awards in 2000 – the most for any city in India.

About the award:

- Launched in 2000, UNESCO Asia-Pacific awards for cultural heritage conservation programme are aimed at acknowledging the efforts taken to restore and conserve historical structures without affecting their heritage value in the region comprising 48 countries.
- The awards are classified under four categories — Award of Excellence, Awards of Distinction, Awards of Merit and Award for New Design in Heritage Context.
- They are being given to encourage the efforts of all stakeholders and the public in conserving and promoting monuments and religious institutes with rich heritage in the Asia-Pacific region.

27. Climate risk from rise in Indian AC units

Context:

As per a report written by the Rocky Mountain Institute, by 2022, India is expected to have a fourth of the world's air conditioning units, and the risks to climate from this could be immense.

Concerns:

- The refrigerants used for cooling are the major contributors to global warming, and if left unchecked, they could cause global temperatures to rise by 0.5 degrees Celsius. Under a business-as-usual growth trajectory, about 4.5 billion room air-conditioners are estimated to be

installed by 2050 — a nearly four-fold jump from todays installed base, with emerging economies observing a five-fold increase.

- HFCs are a family of gases that are largely used in refrigerants at home and in car air-conditioners. However, they substantially worsen global warming. India, China, the United States and Europe have committed themselves to reducing the use of HFC by 85% by 2045.

- In 2016, India was a signatory to a compact of 107 countries to "substantially phase" out a potent greenhouse gas, called hydrofluorocarbons (HFC), by 2045 and move to prevent a potential 0.5 C rise in global temperature by 2050.

Need for energy efficiency in the area of air- conditioning:

- Every one degree increase in the air-conditioner temperature setting results in saving of 6% of electricity consumed. The new campaign will result in substantial energy savings and also reduce greenhouse gas emission.

- Besides, normal human body temperature is approximately 36-37 degree Celsius, but large number of commercial establishments, hotels and offices maintain temperature around 18-21 degree Celsius. This is not only uncomfortable but is actually unhealthy.

- Setting the temperature in the range of 18-21 degree Celsius compels people to wear warm clothing or use blankets; therefore, this is actually wastage of energy.

Efforts by government in this regard:

- Union Power Ministry has launched a campaign to promote energy efficiency in the area of air-conditioning. This initiative is launched on voluntary basis to increase awareness and encourage consumers to adopt the guidelines. It will save energy and reduce greenhouse gases.

28. Indian Wind Turbine Certification Scheme (IWTCS)

Context:

Ministry of New and Renewable Energy, in consultation with National Institute of Wind Energy Chennai, has prepared a draft of new Scheme called Indian Wind Turbine Certification Scheme (IWTCS) incorporating various guidelines.

About the Indian Wind Turbine Certification Scheme (IWTCS):

- The IWTCS is a consolidation of relevant National and International Standards (IS/IEC/IEEE), Technical Regulations and requirements issued by Central Electricity Authority (CEA), guidelines issued by MNRE and other international guidelines. It also incorporates various best practices from other countries to ensure the quality of the wind energy projects.

- The draft Scheme enlists the guidelines for the benefit of all the stakeholders from concept to lifetime of wind turbine, including Indian Type Approved Model (ITAM), Indian Type Certification Scheme (ITCS), Wind Farm Project Certification Scheme (WFPCS) and Wind Turbine Safety & Performance Certification Scheme (WTSPCS).
- The IWTCS is envisaged to assist and facilitate the following stakeholders; (i.) Original Equipment Manufacturers (OEMs) (ii.) End Users -Utilities, SNAs, Developers, IPPs, Owners, Authorities, Investors and Insurers (iii.) Certification Bodies (iv.) Testing Laboratories.

Need for a scheme in this context:

- Wind sector in India is growing at a rapid pace with increased utilization of wind energy for the power development. The modern wind turbines have higher hub heights, larger rotor diameter, higher capacity and improved Capacity Utilization Factor (CUF) along with technological improvements.

- Under these developments, there is a need for comprehensive document which provides the complete technical requirements which shall have to be complied by the wind turbines for the safe and reliable operation by all the stakeholders viz, OEMs, Independent Power Producers (IPPs), wind farm developers, Financial Institutions, Utilities and others. Also, there is a need for technical regulations which shall facilitate common ground for OEMs, Developers, Investors and Financial Institution for systematic development.

29. Mega Food Park

Context:

Maharashtra's second Mega Food Park has been opened in Aurangabad District. It is promoted by M/s Paithan Mega Food Park Pvt Ltd, the Park.

- A 3rd Mega Food Park has been sanctioned by the Ministry in Maharashtra and is under implementation in Wardha District while the first Park was inaugurated on 1st of March 2018 in Satara district.

About Mega Food Parks:

- Ministry of Food Processing Industries is implementing Mega Food Park Scheme in the country.

- The Scheme of Mega Food Park aims at providing a mechanism to link agricultural production to the market by bringing together farmers, processors and retailers so as to ensure maximizing value addition, minimizing wastages, increasing farmers' income and creating employment opportunities particularly in rural sector.

- These food parks 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.

- A maximum grant of R50 crore is given for setting up a MFP, in minimum 50 acres of contiguous land with only 50% contribution to the total project cost.

Mode of operation:

- The Scheme has a cluster based approach based on a hub and spokes model. It includes creation of infrastructure for primary processing and storage near the farm in the form of Primary Processing Centres (PPCs) and Collection Centres (CCs) and common facilities and enabling infrastructure at Central Processing Centre (CPC).
- The PPCs are meant for functioning as a link between the producers and processors for supply of raw material to the Central Processing Centres.
- CPC has need based core processing facilities and basic enabling infrastructure to be used by the food processing units setup at the CPC. The minimum area required for a CPC is 50 acres.
- The scheme is demand-driven and would facilitate food processing units to meet environmental, safety and social standards.

30. Point Calimere Wildlife Sanctuary

Context:

Point Calimere Wildlife Sanctuary in Vedaranyam Range has been closed for a week in view of water-logging caused by a heavy spell of rainfall. S study notes that the water quality at the Point Calimere Wildlife Sanctuary might be unsafe for avifauna to feed and breed.

- It is located in Nagapattinam district of Tamil Nadu spreads across an area of 30 sq.km and comprises sandy coastal, saline swamps and thorn scrub forests around the backwater.
- It is a protected area and a Ramsar site.
- It harbors the single-largest stretch of the unique dry-evergreen forest in the country besides open grasslands and tidal mudflats are of interest to tourists.
- Around 100 species of birds including the Greater Flamingo, Painted Stork, Little Sting, Sea Gull and Brown-headed gull have been making their presence felt since September.
- Blackbuck (Antilope Cervicapra) is the flagship species of the sanctuary.
- Other important animals are the spotted deer, black-napped hare, wild boar, Indian jackal, feral horses, palm civet, short-nosed fruit bat, jungle cat and monitor lizard.

Science & Technology

31. GSAT-29 has a perfect launch

Context:

Recently the Indian Space Research Organisation launced the GSAT-29 on board its second developmental flight GSLV-MkIII D2 from the Satish Dhawan Space Centre at Sriharikota

THE MISSION

GSLV MkIII-D2 is the second developmental flight of Geosynchronous Satellite Launch Vehicle Mark III. In this flight, the vehicle will carry the 3423 kg GSAT-29 satellite and place it in Geosynchronous Transfer Orbit (GTO).

GSLV MkIII-D2
- GSLV MkIII is the fifth generation launch vehicle developed by ISRO.
- GSLV MKIII vehicle is designed to place a satellite of up to 4000 kg in GTO.

GSAT-29
- GSAT-29 is a multibeam, multiband communication satellite.
- It will be launched into an elliptical GTO with a 190 km perigee and 35,975 km apogee with an inclination of 21.5 deg.
- GSAT-29 will be taken to its final Geostationary Orbital location by firing its onboard propulsion system in steps and the satellite will be stationed at 55 deg East longitude.

Targeted GTO:
Perigee: 190 km, Apogee: 35,975 km, Inclination: 21.5 deg

| 67th Launch vehicle mission from SDSC SHAR | 33rd Communication Satellite built by ISRO | 23rd Launch from Second Launch Pad | 5th Launch of 2018 | 2nd Developmental Flight of GSLV MkIII |

Important Facts about GSAT-29:

- "The first operational mission of this vehicle (GSLV-MkIII) is going to be none other than the Chandrayaan-II mission in January next year.

- This vehicle is going to carry a human to space three years from now.

- The communication satellite, weighing 3,423 kg, "is a multiband, multi-beam communication satellite, intended to serve as test bed for new and critical technologies".

- The Ku-band and Ka-band payloads are expected to cater to communication requirements for people in remote areas in the country, especially Jammu and Kashmir, and the North-East.

- The satellite will be placed in a geo-stationary orbit at its intended location after three orbit raising manoeuvres over the next few days.

Manned Space Mission by 2022:

- Prime Minister Narendra Modi had envisioned that an "Indian son or daughter" will undertake a manned space mission by 2022 while delivering his Independence Day address this year and ISRO had set a target of achieving this feat by December 2021.

- ISRO planned to have two unmanned missions — one in December 2020 — before attempting to put a human in space.

32. SpiNNaker- World's largest brain-like supercomputer

Context:

It is the world's largest supercomputer designed to work in the same way as the human brain. It has been switched on for the first time.

- The newly formed million-processor-core Spiking Neural Network Architecture (SpiNNaker) machine is capable of completing more than 200 million million actions per second, with each of its chips having 100 million transistors.

What are biological neurons?

- The SpiNNaker machine designed and built in The University of Manchester in the UK, can model more biological neurons in real time than any other machine on the planet.

- Biological neurons are basic brain cells present in the nervous system that communicate primarily by emitting 'spikes' of pure electro-chemical energy.

- Neuromorphic computing uses large scale computer systems containing electronic circuits to mimic these spikes in a machine.

What is unique about SpiNNaker?

- SpiNNaker is unique because, unlike traditional computers, it does not communicate by sending large amounts of information from point A to B via a standard network. Instead it mimics the massively parallel communication architecture of the brain, sending billions of small amounts of information simultaneously to thousands of different destinations.

How it works?

- Researchers eventually aim to model up to a billion biological neurons in real time and are now a step closer. To give an idea of scale, a mouse brain consists of around 100 million neurons and the human brain is 1,000 times bigger than that.

- One billion neurons is one per cent of the scale of the human brain, which consists of just under 100 billion brain cells, or neurons, which are all highly interconnected via approximately one quadrillion synapses.

- One of the fundamental uses for the supercomputer is to help neuroscientists better understand how our own brain works. It does this by running extremely large scale real-time simulations which simply aren't possible on other machines.

- For example, SpiNNaker has been used to simulate high-level real-time processing in a range of isolated brain networks. This includes an 80,000 neuron model of a segment of the cortex, the outer layer of the brain that receives and processes information from the senses.

Potential for neurological breakthroughs:

- It also has simulated a region of the brain called the Basal Ganglia – an area affected in Parkinson's disease, meaning it has massive potential for neurological breakthroughs in science such as pharmaceutical testing.
- The power of SpiNNaker has even recently been harnessed to control a robot, the SpOmnibot. This robot uses the SpiNNaker system to interpret real-time visual information and navigate towards certain objects while ignoring others.

33. NASA to send organs on chips to space

- NASA is planning to send small devices containing human cells in a 3D matrix — known as tissue chips or organs-on-chips — to the International Space Station (ISS) to test how they respond to stress, drugs and genetic changes.
- The "Tissue Chips in Space" initiative seeks to better understand the role of microgravity on human health. Made of flexible plastic, tissue chips have ports and channels to provide nutrients and oxygen to the cells inside them.

34. Barnard's star b

Context:

Astronomers have discovered a frozen planet with a mass over three times that of the Earth, orbiting the closest solitary star to the Sun.
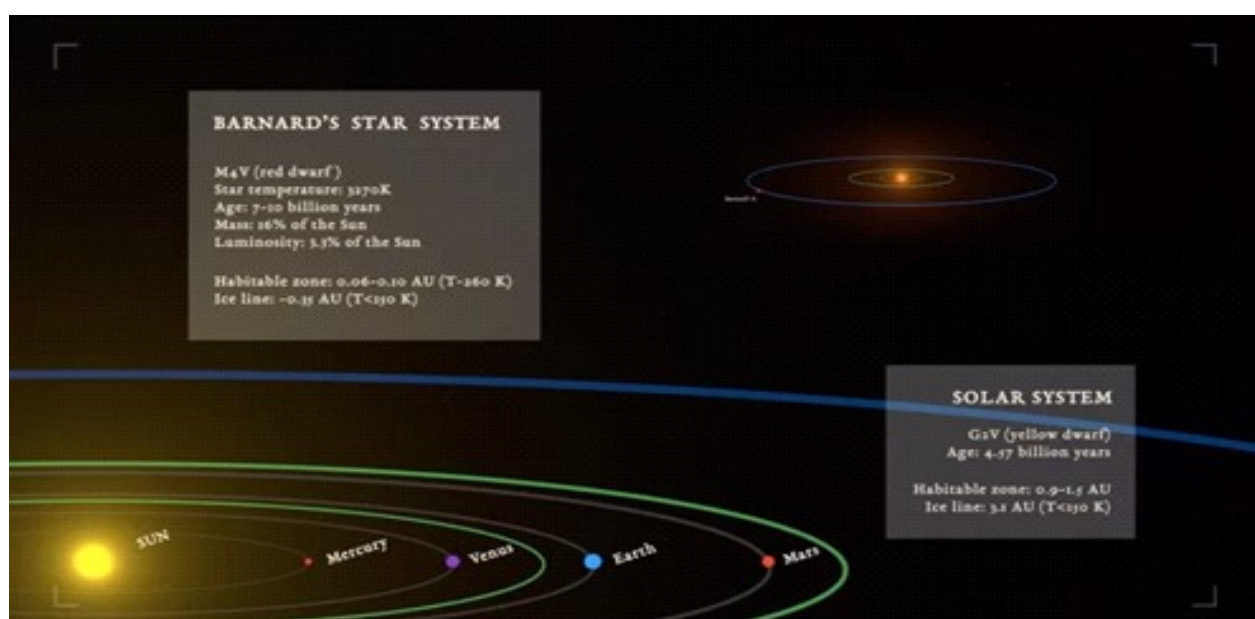
- The potentially rocky planet is a 'super-Earth' and orbits around its host star once every 233 days, said researchers from Queen Mary University of London.

- The planet lies at a distant region from the star known as the 'snow line' This is well beyond the habitable zone in which liquid water, and possibly life, could exist.

- The planet's surface temperature is estimated to be around -170°C, they said. However, if the planet has a substantial atmosphere the temperature could be higher and conditions potentially more hospitable.

- Barnard's star b is the second closest known exoplanet to our Sun. The closest lies just over four light-years from Earth. That exoplanet, Proxima b, orbits around the red dwarf Proxima Centauri.

Miscellaneous

35. Bilateral Naval Exercise 'Samudra Shakti'

Context:

Indian Navy and Indonesian Navy has scheduled Bilateral Exercise 'Samudra Shakti'.

Exercise 'Samudra Shakti':

- The aim of the exercise is to strengthen bilateral relations, expand maritime co-operation, enhance interoperability and exchange best practices.
- The exercise seeks to promote India's solidarity with Indonesia towards ensuring good order in the maritime domain and to strengthen existing bonds between the navies of the two nations.

36. Kolkata International Film Festival: Workshop on preserving, restoring film inaugurated; to train around 200 people

Context:

The workshop, which is an initiative of the Film Heritage Foundation (FHF) and International Federation of Film Archives (FIAF), will be held at ICCR in Kolkata from November 15 to 22.

Key Points:

- The 4th edition of the Film Preservation and Restoration Workshop India was inaugurated on Thursday at the Kolkata International Film Festival.
- The workshop will train around 200 people who will learn techniques to preserve and restore films. "The entire process of film preservation and restoration will also create jobs.
- The participants in this workshop will receive training on preservation and restoration techniques for celluloid film and photographic materials such as posters, lobby cards, song booklets and photographs.

Kolkata International Film Festival:

- 24th Kolkata International Film Festival is all set to Make you Laugh, Cry, Scream and Sing Together from this 10th to 17th November, 2018
- The Kolkata Film Festival which was started in the year 1995 was the culmination of a film society movement that drew its inspiration from the masters of Bengali Cinema - Satyajit Ray, Ritwik Ghatak, Mrinal Sen.
- Earlier, the Kolkata International Film Festival, though prestigious, was a comparatively small affair and hence it could not reach a large

audience. Since 2011 the Festival has reached a whole new level in terms of profile, publicity and reach.

- This film Festival has become a flagship event of the Government of West Bengal now.

- The Kolkata International Film Festival grew into a larger and more inclusive celebration of cinema, a festival which is not just grand in scale, but also accessible to the common mass.

37. 'Ambassador of Conscience' Award

- Amnesty International has stripped Myanmar's leader Aung San Suu Kyi of its highest honour, the 'Ambassador of Conscience' award, over her indifference to atrocities committed by the Myanmar military against and increasing intolerance of freedom of expression.

- The Amnesty International, an international human rights group, named Suu Kyi as its 2009 Ambassador of Conscience Award recipient when she was still under house arrest for her opposition to Myanmar's oppressive military. However, considering her failure to speak out and her shielding of the security forces from accountability for the violence against the Rohingya, the organisation withdrew the honour from her.

38. Public Service Broadcasting Day

- The Public Service Broadcasting Day was observed across India on November 12, 2018. The day is observed every year to commemorate the first and last visit of the Father of the Nation Mahatma Gandhi to the studio of All India Radio, Delhi in 1947.

- Mahatma Gandhi had on November 12, 1947 visited the studio of All India Radio to address the displaced people from Pakistan who were temporarily settled in Kurukshetra, Haryana after the partition of the Indian subcontinent.

39. INDRA 2018

Context:

The latest edition is being conducted at Babina Field Firing Ranges, Babina Military Station.

- It is a joint military exercise between Indian and Russia on combating insurgency under the aegis of United Nations (UN).

- The aim of the exercise is to practice joint planning and conduct to enhance interoperability of the two Armies in the peace keeping/ enforcement environment under the aegis of the UN.

- It focuses upon training on enhancing team building, special tactical level operations such as Cordon and Search, house intervention,

handling and neutralisation of Improvised Explosive Devices and integrated employment of force multipliers.

40. #PowerOf18 campaign

Context:

It is a campaign launched by Twitter India aimed at encouraging youth to contribute in public debates and participate in civic engagement for the 2019 general elections.

- **Significance:** The campaign will serve as resource for young Indians to find more information about elections, support social causes they are passionate about and join public conversation.

41. MCGS Huravee:

Context:

Maldivian Coast Guard Ship (MCGS) Huravee has successfully completed her refit at Naval Dockyard Visakhapatnam and the ship was formally handed over to Maldives recently.

- MCGS Huravee was originally commissioned as INS Tillanchang, a Trinkat class patrol vessel built by Garden Reach Shipbuilders and Engineers, Kolkatta in Mar 2001 and was subsequently gifted to Maldives by the Govt of India in Apr 2006 to strengthen the strategic partnership between the two nations and work together to ensure the maritime safety of the Indian Ocean Region.

42. Cherry Blossom

Context:

India International Cherry Blossom festival is scheduled to be held from November 14 to 17 in Shillong, Meghalaya.

- **Significance:** This festival is the world's only autumn cherry blossom festival. The festival is organised by Government of Meghalaya's Forest & Environment Department as well as by the Institute of Bioresources & Sustainable Development (IBSD) in collaboration with Indian Council for Cultural Relations (ICCR).

- **Aim:** The aim of the festival is to celebrate the unique autumn flowering of Himalayan Cherry Blossoms. The Cherry Blossom tree flowers only for a short period in a year. The festival will showcase full pink and white cherry blossoms found all along the roadside of the famous Ward Lake. Alongside, the festival will also showcase the region's food, wine and crafts in addition with several cultural events.

OUR BRANCHES

OUR RESULTS - 2017

62 Fathima Zeba — HT No : 786820
83 Srivastava — HT No : 29379
100 Mourya — HT No : 255748
105 Mishra — HT No : 262146

144, 149, 187, 295, 296, 360, 412, 417

474, 480, 548, 614, 673, 713, 726, 758

761, 765, 768, 769, 828, 832, 872, 886