



CURRENT AFFAIRS - PART 4

Space Harpoon to Capture Junk

- Thousands of old satellite and rocket parts circle the Earth. Recently in an experiment a harpoon flung from a satellite has successfully captured a piece of space junk.
- This was an effort to clean up debris in orbit.
- Thousands of old satellite and rocket parts and other junk circle the Earth, a potential threat to working spacecraft, including the International Space Station.

Blue Moon Blood Moon

- BLUE MOON

- Second full moon in one month has nothing to do with the colour of the moon

SUPER MOON

- Full moon appears bigger than normal owing to its closure proximity to the Earth. Full and at its perigee-closest point to Earth- makes it appear 14 per cent larger and 30 per cent brighter.

BLOOD MOON

- The only light reflected from the lunar surface has been refracted by Earth's atmosphere that turns the moon orange or red

- **LUNAR ECLIPSE**

- Earth's shadow covers the moon. It occurs only when the Sun, Earth, and moon are exactly or very closely aligned and happens on the night of a full moon.

WOLF MOON

'Wolf Moon' is a traditional way of naming an eclipse in the month of January.

SUPER BLOOD WOLF MOON

- Happened in January 2019. Sky watcher could see an unusual set of celestial circumstances happened

- **Why moon appears red:**

- During a lunar eclipse, the Moon appears red due to the light of the Sun that no longer directly illuminates it, since Earth is passing in between the Moon and Sun.

Ultima Thule

- Most distant object ever explored- Kuiper Belt Object (KBO) 2014 MU 69, nicknamed Ultima Thule.
In January the NASA spacecraft passed very close to Ultima Thule.
- New images were taken which are very clear. The oblique lighting of the image reveals new topographic details- numerous small pits up to about 0.7 km in diameter along the day or night boundary or terminator near the top.
- The image also shows large circular feature, about 7 km across, and on the smaller of the two lobes appears as a deep depression. It is not clear whether these pits are impact craters or features resulting from other processes such as 'collapse pits' or the ancient venting of volatile materials.

Ultima Thule

- Both lobes also show many intriguing light and dark patterns of unknown origin, which may reveal clues about how this body was assembled during the formation of the solar system of the solar system 4.5 billion years ago.
- One of the most striking of these is the bright 'collar' separating the two lobes.
- The image is also revealed differences in the geologic character of the two lobes of Ultima Thule.

Fiscal Deficit and GDP of States in 2018

- Bihar and Andhra Pradesh states that had the highest GSDP growth in fiscal 2018 also had fiscal deficit of over 3% GDP. This suggest higher fiscal spends may have driven the growth of these states.

STATE	FISCAL DEFICIT	GDP
HARYANA	2.8	7.2
PUNJAB	4.5	6.2
RAJASTHAN	3.5	7.2
GUJARAT	1.7	11.1
MP	3.4	7.3
MAHARASHTRA	1.8	7.3
KARNATAKA	2.8	9.3
KERALA	3.4	5.0
TAMIL NADU	2.8	8.1
UP	3.1	6.4
BIHAR	7.2	11.3
WEST BENGAL	2.4	9.1
JHARKHAND	2.5	4.6
ODISHA	3.5	7.1
CHHATTISGARH	3.0	6.7
TELAGANA	3.2	10.4
ANDHRA PRADESH	3.4	11.2

- Major parts of the world now face water shortage. Desalination of sea water seems to be a viable alternative. But it has enormous environmental cost. To turn sea water into sweet water, the salts are to be removed from it. The plants are then flush a salt-rich effluent called 'brine' back into sea. This makes the sea water near desalination plants so salty that small organisms can not live in it any more.
 - 16,000 desalination plants running in 177 countries more are added
 - 95 million m³ fresh water produced daily in desalination plants
 - 142 million m³ brine discharged back into the sea, daily
 - 4X increase in 'marine dead zones' since the 1950s
 - 4 countries responsible for more than half of the discharge:
Saudi Arabia, UAE, Kuwait and Qatar
 - 22 % Saudi Arabia alone responsible

Marine Dead Zones

- Dead zones are hypoxic (Low oxygen) areas in the world's oceans and large lakes, caused by excessive nutrient pollution from human activities coupled with other factors that deplete the oxygen required to support most marine life in bottom and near bottom water.
- Dead zones are caused by oxygen-depleting factors. The process is called eutrophication. Oxygen levels decrease and elements such as nitrogen and phosphorous increases. There may be algal bloom but they will die soon for want of oxygen. Decomposers then use all of the remaining oxygen decomposing the algae, resulting in no oxygen being produced.
- UN Environment Programme: Reported 2004 - 146 dead zones.
2008 - 405 dead zones

Huge Mountain under the Earth's Crust

- There was a major earthquake in Bolivia. Scientist used the data of this earthquake and have discovered massive mountains in the Earth's mantle.
- The finding can give us a lead in understanding of how the planet was formed.
- Mountains have been found on a layer located 660 kms straight down which separates the upper and lower mantle.
- This layer is called 660 km boundary.

Global Burden of Disease Report 2017 India

- Malnutrition and air pollution continue to be the top risk factors causing death and disability in India in 2016, according to the Global Burden of Disease Report released on September 15 2017.
- Report says India has the second highest number of early deaths due to PM2.5 in the world.
- India now tops the list of highest number of deaths due to ozone pollution. Ozone aggravates respiratory problems, especially chronic obstructive pulmonary disease (COPD). India has now included COPD in its non-communicable disease programme.

- Ozone is not directly emitted but is formed by reaction of a variety of gases like nitrogen oxide, carbon monoxide and volatile organic compounds under the influence of sunlight and temperature. According to scientists, formation of ozone is expected to be higher in countries in tropics and subtropics and near the equator.
- What is Burden of Disease:
Disease burden is the impact of a health problem as measured by financial cost, mortality, morbidity or other indicators. It is often quantified in terms of quality-adjusted life years (QALYs) or disability-adjusted life years (DALYs) , both of which quantify the number of years lost due to disease (YLDs).
- The Global Burden of Disease Study began in 1990 as a single World Bank-commissioned study, now called GBD 1990.

Agalega Island Project

Unease over Agalega



- The Agalega archipelago consists of two sparsely populated islands about 965 km north of mainland Mauritius. It has a population of 300

India's involvement in the Agalega project has caused disquiet in Mauritius

- The MoU for the project was signed in March 2015 during Prime Minister Narendra Modi's visit
- It is to commence in Feb. 2019 and end in 2021
- India agreed to provide approximately \$87 million to build an airport terminal, extend its runway and refurbish jetties

Agalega Island Project

- In 2015, the agreement was signed for Agalega Islands.
- The MoU had provided for “setting up and upgradation of infrastructure for improving sea and air connectivity” and enhancing “capabilities of the Mauritian Defence Forces in safeguarding their interests in the Outer Island.
- However, since then, there have been growing reports over the Indian naval and coastguard’s interests in setting up transponder systems and surveillance infrastructure, which has led to some local protests.

Agalega Island Project

- The \$87 million project, to be funded by India,
- Has been awarded to two Indian companies:
AFCON construction group and RITES engineering consultancy. Surveys have begun to fulfil the contract signed on September 28 this year, which stipulated that construction begin by February 12, 2019, and be completed in 2021.
- Prime Minister Pravind Jugnauth's government faced tough questions in the National Assembly as the Opposition raised a storm over Indian involvement in the project and its costs and whether it would involve a military component.

Pokkali Paddy Kerala

- Pokkali is a unique saline tolerant rice variety that is cultivated using extensive aquaculture in an organic way in the water-logged coastal regions, spread in about 5000 hectares area in Alappuzha, Thrissur and Emakulam districts of Kerala.
- The brand Pokkali has received a GI tag.
- Its resistance to salinity is remarkable. The rice is cultivated from June to early November when the salinity level of the water in the fields is low.

Pokkali Paddy Kerala

- From mid November to mid April when the salinity is high prawn farming takes over.
- The prawn seedlings which swim in from the sea and the backwaters after the rice harvest, feed on the leftovers of the harvested crop.
- The rice crop, which get no other fertilizer or manure, draw nutrients from the prawns excrement and other remnants.

Winter Fog Experiment (WIFEX 2016-17)

- Fog is a visible mass consisting of cloud water droplets suspended in the air or near the Earth's surface.
- The presence of heavy and extended period fog in the northern regions of India is one of the major weather hazards, impacting aviation, road transportation, economy and public life in the world's most densely populated region.
- Maximum fog occurrence over the Northwest India is about 48 days (visibility < 1000m) per year, and occurs mostly during the December-February time period.

Winter Fog Experiment (WIFEX 2016-17)

Bhanu's PPT

- The objectives of the Winter Fog Experiment (WIFEX) are to develop better now-casting (next 6 hours) and forecasting of winter fog on various time and spatial scales, and help reduce its adverse impact on aviation, transportation and economy, and loss of human life due to accidents.
- The main scientific objective of this project is to study the characteristics and variability of fog events and associated dynamics, thermodynamics and fog microphysics, with the aim to achieve better understanding of fog life cycle and ultimately improve capability in fog prediction.

Winter Fog Experiment (WIFEX 2016-17)

- Extensive sets of comprehensive ground-based instrumentation, including remote sensing platforms, are deployed at the Indira Gandhi International Airport (IGIA), New Delhi. Major in-situ sensors are deployed to measure surface micro meteorological conditions, radiation balance, turbulence, thermo-dynamical structure of the surface layer, fog droplet and aerosol microphysics, aerosol optical properties, real time sky images, and aerosol and fog water chemistry to describe the complete environmental conditions in which fog develops.
- Indian Institute of Tropical Meteorology (IITM), Pune, India Meteorology Department (IMD), National Centre for Medium Range Weather Forecast (NCMRWF), Airport Authority of India, GMR, Indira Gandhi International Airport and Indian Institute of Science Education and Research (IISER) Mohali participated in this observational campaign.

World Press Freedom Index

- World Press Freedom Index is published by Reporters without Borders
- The 2018 India report covers a range of issues including press and media freedoms, forced disappearances, custodial deaths and the NGO clampdown – which became an issue between the U.S. and India, after the NDA government cancelled licenses of some 15,000 NGOs under the Foreign Contributions Regulation Act.
- “Police continue to be underpaid, overworked, and subject to political pressure, in some cases contributing to corruption.”

World Press Freedom Index

- The report also cites figures from the Office of the UN High Commissioner for Human Rights (OHCHR) on alleged violation of human rights by security forces in Kashmir.
- It says 130-145 civilian deaths by security forces in Jammu & Kashmir occurred between June 2016 and April 2018.
- Taking note of undertrials, the report, based on National Crime Record Bureau (NCRB) data, says just over 2,93,000 individuals were awaiting trial at the end of 2016. It also cites a 2017 Amnesty International report saying that Muslims, Dalits and Adivasis comprised a disproportionate number (53%) of pre-trial detainees.

World Press Freedom Index

- It cites a 2017 Press Council of India report saying at least 80 journalists were killed since 1990 but only one conviction had occurred thus far.
- “The Editors Guild of India claimed the government limited press freedom by exerting political pressure and blocking television transmissions.” It cited the firing of *The Tribune’s* Editor-in-Chief Harish Khare after reported government pressure on the newspaper following its report on privacy and security flaws in the Aadhaar program.
- The government also made an increasing number of requests for data from internet companies as per the report. 22,024 requests were made in 2017, according to Facebook data, a 61.7% rise from 2016.

New Hydroelectricity Policy

- As per the new hydroelectricity policy, large hydro projects are also included within the ambit of renewable energy. Previously, only small hydro projects of a capacity of less than 25 MW were treated as renewable energy. Large hydro projects were treated as a separate source of energy.
- The new hydroelectricity policy has meant a drastic change in the renewable energy mix as well. Whereas earlier, wind energy contributed nearly 50% of all renewable energy capacity, it will now make up only 29.3%. Similarly, solar energy's share will fall from 34.68% to 21.61%. The hydro sector will see its share grow from just over 6% to over 41%.

Lokpal

- The Lokpal and Lokayuktas Act, which envisaged the setting up of a Lokpal at the Centre and Lokayuktas for the states, to enquire into allegations of corruption against public functionaries was enacted in 2013 and received Presidential assent on January 1, 2014.
- Lokpal: The national anti-corruption ombudsman

Former Supreme Court judge **Justice Pinaki Chandra Ghose** appointed as the country's first Lokpal – the national anti-corruption ombudsman.

Lokpal

- A high-level **selection committee** comprising Prime Minister, Chief Justice of India, Lok Sabha Speaker and **eminent jurist** member Mukul Rohatgi cleared Justice Ghose's name. Leader of the largest Opposition party in the Lok Sabha did not attend the meeting as a Special Invitee.
- Justice Ghose was appointed judge of the Supreme Court in March 2013 and retired in May 2017. He is currently a member of the National Human Rights Commission. In February 2017. Justice P C Ghose was part of a bench along with Justice Amitava Roy that upheld the conviction and sentencing of V K Sasikala – the associate of former Tamil Nadu Chief Minister J Jayalalitha – in a disproportionate assets case.

Anti-Satellite Missile

- India's ASAT missile did not carry any explosive or ammunition, but used only its kinetic energy to destroy the targeted satellite.
- India is only the fourth country in the world to acquire such a specialized and modern capability.
- The ASAT missile was developed indigenously by the DRDO. The Ballistic Missile Defence (BMD) Interceptor Missile successfully engaged an Indian orbiting target satellite in Low Earth Orbit (LEO), about 300 km from the earth's surface, in a 'Hit to Kill' mode. The interceptor missile was a three-stage missile with two solid rocket boosters.
- DRDO missile knocked out a micro satellite called Microsat-R which was launched by ISRO into low earth orbit for the DRDO on January 24 2019.

Base Erosion and Profit Shifting

- The Base Erosion and Profit Shifting (BEPS) Action Plan adopted by the Organisation for Economic Co-operation and Development (OECD) and G20 countries in 2013.
- Base erosion and profit shifting refers to the activities of multinational corporations to shift their profits from high tax jurisdictions to lower tax jurisdiction, thereby eroding the tax base of the high tax jurisdictions and depriving them of tax revenue.
- In order to combat this, many countries entered into agreements to share tax information with each other to enhance transparency and make such profit shifting that much harder.

Base Erosion and Profit Shifting

- India and the U.S. signed an inter-government agreement for the automatic exchange of country-by-country (CbC) reports.
- This is a key step in making India compliant with the Base Erosion and Profit Shifting (BEPS) project, of which it is an active participant.

Earth's Magnetic Field

- Scientists have long known that turtles, birds, honeybees and even bacteria can sense the earth's magnetic field and use them for navigation. But this magneto-reception has hardly been tested in humans and many studies have been inconclusive.
- The participants were connected to an EEG set-up and their brain activity was monitored. In the one-hour session, for a few minutes, the magnetic field around the chamber was shifted. They noticed that during this period, the alpha power of the brain began to drop.

New Species of Dwarf Frog

- The new species of nocturnal starry dwarf frog that lives under leaf litter has been discovered in Kerala's Wayanad.
- It is just 2 cm long and sports pale blue spots and brilliant orange thighs. Genetic analysis reveals that the species is at least 60 million years old.
- The Scientists have named the new species the starry dwarf frog *Astrobatrachus kurichiyana*.
- The starry dwarf frog, a nocturnal amphibian that lives under leaf litter on a mountaintop in Kerala's Wayanad has been discovered recently.

Nice Agreement

- The Nice Agreement, concluded at Nice (Nice is a city in France) in 1957, revised at Stockholm in 1967 and at Geneva in 1977, and amended in 1979, establishes a classification of goods and services for the purposes of registering trademarks and service marks.
- The Agreement is open to States party to the Paris Convention for the Protection of Industrial Property (1883).
- The Union Cabinet has recently approved the proposal for accession of India to 'Nice Agreement' on the International classification of goods and services for the purposes of registration of marks.

Nice Classification of Goods and Services

- Nice Classification was established by Nice Agreement (1957) is a system of classifying goods and services for the purpose of registering trademarks.
- It is updated every five years
- 11th latest version of the system groups products into 45 classes. Classes 1-34 includes goods and classes 35-45 embrace services
- Users seeking to trademark a good or service to choose from these classes as appropriate.

India's accession to Nice Agreement

- The Union Cabinet, chaired by the Prime Minister Narendra Modi has approved the proposal for accession of India to;
 - (i) The Nice Agreement concerning the International classification of Goods and Services for the purposes of registration of marks,
 - (ii) The Vienna Agreement establishing an International Classification of the figurative elements of marks, and
 - (iii) The Locarno Agreement establishing an International classification for industrial designs.
- Accession to the Nice, Vienna and Locarno Agreements will help the Intellectual Property Office in India to harmonise the classification systems for examination of trademark and design applications, in line with the classification systems followed globally.

India's accession to Nice Agreement

- It would give an opportunity to include Indian designs, figurative elements and goods in the international classification systems.
- The accession is expected to instill confidence in foreign investors in relation to protection of IPs in India.
- The accession would also facilitate in exercising rights in decision making processes regarding review and revision of the classifications under the agreement.

World Intellectual Property Organization (WIPO)

Bhanu's PPT

- WIPO is the global forum for intellectual property services, policy, information and cooperation.
- It is a self-funding agency of the United Nations
- It has 192 member states
- Mission of WIPO is to lead the development of a balanced and effective international intellectual property (IP) system that enables innovation and creativity for the benefit of all.
- It was established in 1967
- HQ: Geneva, Switzerland

India's Commitment for Paris Agreement

- India's stated commitment to achieve the goal of Paris Agreement of 2015 is to
- Lower emissions intensity of its GDP by 33-35% compared to 2005 levels by 2030;
- Increase total cumulative electricity generation from fossil free energy sources to 40% by 2030,
- Create additional carbon sink of 2.5 to 3 billion tons through additional forest and tree cover.
- As per the recently published sixth edition of the Global Environmental Outlook (GEO), India could save at least \$3 trillion in healthcare costs if it implemented policy initiatives consistent with ensuring that the globe didn't heat up beyond 1.5 degrees Celsius by the turn of the century.

Pradhan Mantri Kisan Samman Nidhi

- To provide an assured income support to the small and marginal farmers, the Government is launching the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). Under this programme, vulnerable landholding farmer families, having cultivable land upto 2 hectares, will be provided direct income support at the rate of Rs. 6,000 per year.
- This income support will be transferred directly into the bank accounts of beneficiary farmers, in three equal instalments of Rs. 2,000 each.

New E-commerce policy

- It Bars online retailers from selling products through vendors in which they have an equity interest.
- Also bars them from entering into exclusive deals with brands for selling products only on their platforms.
- All online retailers will be required to maintain a level playing field for all the vendors selling their products on the platform, and it shall not affect the sale prices of goods in any manner.
- Disallows e-commerce players to control the inventory of the vendors. Any such ownership over the inventory will convert it into inventory based model from marketplace based model, which is not entitled to FDI.

New E-commerce Policy

- Under the new rules, the e-commerce retailer shall be deemed to own the inventory of a vendor if over 25 per cent of the purchases of such a vendor are through it.
- The key objective behind the revising the FDI rules for the e-commerce giants is to level the playing field in the retail space, as heavy discounting on online retail sites was causing heavy losses to the small and medium brick and mortar stores.

Rashtriya Gokul Mission

- To conserve and develop indigenous bovine breeds, government has launched 'Rashtriya Gokul Mission' under the National Programme for Bovine Breeding and Dairy Development (NPBBD).
- The Mission is being implemented with the objectives to:
 - a) development and conservation of indigenous breeds
 - b) undertake breed improvement programme for indigenous cattle breeds so as to improve the genetic makeup and increase the stock;
 - c) enhance milk production and productivity;
 - d) upgrade nondescript cattle using elite indigenous breeds like Gir, Sahiwal, Rathi, Deoni, Tharparkar, Red Sindhi and
 - e) distribute disease free high genetic merit bulls for natural service.

Instrument for Supporting Trade Exchange(INSTEX)

- It is a payment mechanism being setup by the European Union to secure trade with Iran and skirt US sanctions after Washington pulled out of the landmark nuclear deal last May.
- This mechanism is the first concrete step by the EU to counter Trump's unilateral decision to withdraw from the nuclear deal.
- INSTEX provides a channel that enables transactions with Iran in absence of SWIFT, the main international paying system.
- INSTEX is registered in France. It will be like barter system without direct financial transactions.
- The objective is to promote legitimate trade between Europe and Iran

Prompt Corrective Action (PCA)

- PCA norms allow the regulator to place certain restrictions such as halting branch expansion and stopping dividend payment.
- It can even cap a bank's lending limit to one entity or sector.
- Other corrective action that can be imposed on banks include special audit, restructuring operations and activation of recovery plan.
- Banks' promoters can be asked to bring in new management, too.
- The RBI can also supersede the bank's board, under PCA.

Prompt Corrective Action (PCA)

- The PCA is invoked when certain risk thresholds are breached. There are three risk thresholds which are based on certain levels of asset quality, profitability, capital and the like.
- The third such threshold, which is maximum tolerance limit, sets net NPA at over 12% and negative return on assets for four consecutive years.
- The Reserve Bank of India (RBI) has lifted the Prompt Corrective Action (PCA) framework operational curbs on Bank of India (BoI), Bank of Maharashtra (BoM) and Oriental Bank of Commerce (OBC).

De-notified and Nomadic Tribes

- They were listed or notified as 'born criminal' by the British under a number of laws.
- After India gained Independence, these tribes were 'de-notified' from the list of Criminal Tribes.
- The Denotified Tribes are communities that were listed or notified as 'born criminal' by the British under a number of laws. The term, 'Denotified and Nomadic Tribes', can be traced to the Criminal Tribes Act (CTA) of 1871.
- The colonial government notified nearly 200 tribal communities to be hereditary criminals, cementing their societal identity as outcasts and subjecting them to constant harassment by the administration.

De-notified and Nomadic Tribes

- Forest laws that came into force from the mid-nineteenth century onwards deprived a large number of communities of their traditional rights of hunting and gathering. The new laws criminalised their very source of livelihood when it practiced.
- When the forests were cleared by the British for commercial use and forest communities asked to contribute to labour, some communities resisted and were declared 'criminal'.
- The British thought that communities had lost their legitimate means of livelihood, they must have been living by indulging in criminal activities due to arrival of road and railway networks.

De-notified and Nomadic Tribes

- After India gained Independence, these tribes were 'de-notified' from the list of Criminal Tribes.
- The Centre will form a welfare panel for nomadic, semi-nomadic and de-notified communities. Announced in Budget.
- A Welfare Development Board will also be set up under the Ministry of Social Justice and Empowerment to design and implement programmes for these hard-to-reach communities.

Income Tax Ombudsman

- The Institution of Income-Tax Ombudsman was created in the year 2003 to deal with grievances of public related to settlement of complaints relating to Income Tax.
- However, the Institution of Ombudsman failed to achieve its objectives.
- The Union Cabinet chaired has approved the proposal for Abolition of Institution of Income-Tax Ombudsman and Indirect Tax Ombudsman.

Agri-Market Infrastructure Fund (AMIF)

- The fund will be created with NABARD for development and up-gradation of agricultural marketing infrastructure in Gramin Agricultural Markets and Regulated Wholesale Markets.
- AMIF will provide the State/UT Governments subsidized loan for their proposal for developing marketing infrastructure in 585 Agriculture Produce Market Committees (APMCs) and 10,000 Grameen Agricultural Markets (GrAMs).
- States may also access AMIF for innovative integrated market infrastructure projects including Hub and Spoke mode and in Public Private Partnership mode.
- The Cabinet Committee of Economic Affairs has given its approval for the creation of a corpus of ₹2000 crore for Agri-Market Infrastructure Fund (AMIF).

Darwaza Band Campaign

- The campaign, produced by the Ministry of Drinking Water and Sanitation, and supported by the World Bank was launched in Mumbai.
- The campaign talks about how a toilet must be used by all, always and under all circumstances (har koi, har roz, hamesha).
- The focuses on sustaining the open defecation free status of villages across the country.
- It focuses on ensuring that people's behaviour is changed for good and everyone always uses a toilet. The Swachh Bharat Mission Grameen has launched the 'Darwaza Band -Part 2' campaign starring Amitabh Bachchan.

Safe City Project

- Empowered Committee of Officers for Nirbhaya funds scheme has approved pilot Safe City projects in eight selected metropolitan cities, namely, Delhi, Kolkata, Mumbai, Chennai, Bengaluru, Hyderabad, Ahmedabad and Lucknow with a view to provide safety to women in public places.
- The project would be implemented as a Centrally Sponsored Scheme with Centre and State sharing the funding in 60:40 ratio.
- The major components of the Safe City project include, inter-alia:
- Setting up an Integrated Smart Control Room;

Safe City Project

- Setting up Pink Out-posts (exclusively administered by Women police) for facilitating ease of filing complaint by women;
- Pink Patrols of Women police;
- Setting up Women Help Desks in all Police Stations with Counsellors;
- Augmentation of existing Asha Jyoti Kendra;
- Implementing Safety measures in buses, including Cameras;
- Improving Street Lighting in identified Hot Spot areas;
- Setting up Pink Toilets;
- Integration of Women power-help line with single Emergency number.

Kisan Credit Card

- The Kisan Credit Card (KCC) scheme was announced in the Budget speech of 1998-99 to fulfil the financial requirements of the farmers at various stages of farming through institutional credit.
- The model scheme was prepared by the National Bank for Agriculture and Rural Development (NABARD) on the recommendation of V Gupta committee.
- The KCC scheme is being implemented by the all Co-operative banks, Regional Rural Banks and Public Sector Banks throughout the country.

Kisan Credit Card

- Scheme covers risk of KCC holders against death or permanent disability resulting from accidents.
- The Indian Banking Association (IBA) has issued advisory guidelines requesting banks to waive off the processing, documentation, inspection, ledger folio charges and all other service charges for crop loans up to Rs 3 Lakhs or for the Kisan Credit Card Scheme.
- The move aims to provide direct benefit to farmers and ease the pressure on them.

- Substantive banning clause which bans Deposit Takers from promoting, operating, issuing advertisements or accepting deposits in any Unregulated Deposit Scheme.
- The Bill bans unregulated deposit taking activities altogether, by making them an offence ex-ante rather than the existing legislative-cum-regulatory framework which only comes into effect ex-post with considerable time lags.
- Creation of three different types of offences, namely, running of Unregulated Deposit Schemes, fraudulent default in Regulated Deposit Schemes, and wrongful inducement in relation to Unregulated Deposit Schemes.

Banning of Unregulated Deposit Scheme Bill 2018

- Severe punishment and heavy pecuniary fines to act as deterrent.
- Provisions for disgorgement or repayment of deposits in cases where such schemes nonetheless manage to raise deposits illegally.
- Attachment of properties / assets by the Competent Authority, and subsequent realization of assets for repayment to depositors.
- Clear-cut time lines have been provided for attachment of property and restitution to depositors.

Banning of Unregulated Deposit Scheme

- Creation of an online central database, for collection and sharing of information on deposit-taking activities in the country.
- This is to deal with the menace of illicit deposit taking schemes, as in the recent past, there have been rising instances of people in various parts of the country being defrauded by illicit deposit taking schemes.
- The worst victims of these schemes are the poor and the financially illiterate, and the operations of such schemes are often spread over many States

Indian Ocean Rim Association (IORA)

- The Indian Ocean Rim Association was set up with the objective of strengthening regional cooperation and sustainable development within the Indian Ocean Region
- The IORA is a regional forum, tripartite in nature, bringing together representatives of Government, Business and Academia, for promoting co-operation and closer interaction among them.
- India, Australia, Iran, Indonesia, Thailand, Malaysia, South Africa, Mozambique, Kenya, Sri Lanka, Tanzania, Bangladesh, Singapore, Mauritius, Madagascar, UAE, Yemen, Seychelles, Somalia, Comoros and Oman are among the members of IORA.
- The Ministry of Home Affairs in collaboration with the Ministry of External Affairs and National Disaster Management Authority (NDMA) is shortly organising a meeting of Indian Ocean Rim Association (IORA) Cluster Group on Disaster Risk Management (DRM) in New Delhi.

National Testing Agency

- In pursuance of the Budget Announcement 2017-18, the Union Cabinet, in November 2017, approved creation of the National Testing Agency (NTA) as an autonomous and self-sustained premier testing organization to conduct entrance examinations for Higher Education Institutions (HEIs) in the country.
- **Composition:** It will be chaired by an educationist who will be appointed by the MHRD. The agency will have a board of governors who will represent the member institutions.
- National Testing Agency (NTA) has launched a 'mobile app' through which students can practice or take mock tests on their own computers or smartphones.

Rashtriya Vayoshri Yojana (RVY)

- The Scheme aims at providing Senior Citizens, belonging to BPL category and suffering from any of the age related disability/infirmary Low vision, Hearing impairment, Loss of teeth and Locomotor disability, with such assisted-living devices which can restore near normalcy in their bodily functions, overcoming the disability/infirmary manifested.
- This is a Central Sector Scheme, fully funded by the Central Government. The expenditure for implementation of the scheme will be met from the “Senior Citizens’ Welfare Fund”.
- Under the scheme, free of cost distribution of the devices, commensurate with the extent of disability/infirmary that is manifested among the eligible senior citizens will take place.

Voter Verifiable Paper Audit Trail

- There shall be 100% use of the Voter Verifiable Paper Audit Trail (VVPAT) system during the Lok Sabha election 2019.
- When a voter presses a button in the EVM, a paper slip is printed through the VVPAT.
- The slip contains the poll symbol and name of the candidate.
- It allows the voter to verify his/her choice. After being visible to the voter from a glass case in the VVPAT for seven seconds, the ballot slip will be cut and dropped into the drop box in the VVPAT machine and a beep will be heard.
- VVPAT machines can be accessed by polling officers only.

VVPAT

- VVPAT is a machine which dispenses a slip with the candidate's serial number, name of the candidate and symbol of the party for which a person has voted for. The slip dropped in a box but the voter cannot take it home.
- The Election Commission recently informed the Madras High Court that it had made it clear way back in 2017 that there shall be 100% use of the Voter Verifiable Paper Audit Trail (VVPAT) system during the Lok Sabha election this year to gain voter confidence.

Zero Fatality Corridor

- The Save LIFE Foundation's ZFC model is well-known for reducing road crash deaths by 30 per cent on the Mumbai-Pune Expressway. It attempts to reduce road crash deaths through a 360-degree intervention, panning road engineering, police enforcement, rapid emergency care and road-user education.
- The Delhi government has kicked off its pilot project of creating Delhi's first 'zero fatality corridor'. It has also issued actionable points to all agencies to ensure a 10% reduction in road accidents by the end of the year.

River Information System

- It is a combination of modern tracking equipment related hardware and software designed to optimize traffic and transport processes in inland navigation.
- It is implemented by Inland Waterway Authority of India. RIS is being implemented under the overall responsibility of Inland Waterway Authority of India, a statutory body administered by the Ministry of Shipping.
- The aim is to boost cargo movement on Ganga
- The second phase of river information system (RIS) was recently inaugurated between Farakka and Patna.

Nuclear Suppliers Group

- NSG is Brought in 1974- in response to the Indian nuclear test (smiling Buddha).
- It is a Multilateral export control regime.
- It is a Group of nuclear supplier countries that seek to prevent nuclear proliferation by controlling the export of materials, equipment and technology that can be used to manufacture nuclear weapons.
- The NSG first met in November 1975 in London, and is thus popularly referred to as the “London Club”.

Nuclear Suppliers Group

- It is Not a formal organization, and its guidelines are not binding. Decisions, including on membership, are made by consensus.
- Membership: 48 supplier states.
- India has been seeking entry into NSG, but China has repeatedly stonewalled its bid.
- India is not a signatory to the NPT. China has stuck to its stand that new members should sign the Nuclear Non-Proliferation Treaty (NPT), making India's entry difficult as the group is guided by the consensus principle.

Department of Industrial Policy and Promotion (DIPP)

Annu's PPT

- It looks into matters related to promotion of internal trade.
- It functions under the Ministry of Commerce and Industry. It will look into matters related to promotion of internal trade, including retail trade, welfare of traders and their employees, facilitating ease of doing business and start-ups. The matters related to internal trade were earlier under the domain of the Ministry of Consumer Affairs. The Department of Industrial Policy and Promotion (DIPP) has been renamed as the Department for Promotion of Industry and Internal Trade.

Pradhan Mantri Shram-Yogi Maandhan Yojana

Bhanu's PPT

- It is a scheme for the unorganised sector workers with monthly income upto ₹ 15,000. A sum of ₹ 500 crore has been allocated for the Scheme.
- This scheme shall provide an assured monthly pension of ₹ 3,000 from the age of 60 years on a monthly contribution of a small affordable amount during their working age.
- An unorganised sector worker joining pension yojana at the age of 29 years will have to contribute only ₹ 100 per month till the age of 60 years. A worker joining the pension yojana at 18 years, will have to contribute as little as ₹ 55 per month only.

- The Government will deposit equal matching share in the pension account of the worker every month
- It is expected that at least 10 crore labourers and workers in the unorganised sector will avail the benefit of the scheme within next five years making it one of the largest pension schemes of the world

Salt Satyagraha

- On March 12, 1930, Mahatma Gandhi embarked a historic Salt March from Sabarmati Ashram in Gujarat's Ahmedabad to the village of Dandi in the state's coastal area to protest against the steep tax the British levied on salt. The Salt March began on March 12, 1930 and continued till April 6, 1930.
- It was a 24-day Salt March, which was non-violent in nature, is historically significant as it led to the mass Civil Disobedience Movement. National Salt Satyagraha Memorial has been opened at Dandi in Navsari district, Gujarat. It was dedicated to the nation on the occasion of Mahatma Gandhi's 71st death anniversary (30th January).
- The memorial encapsulates the ideals of Mahatma Gandhi- Agrah for Swadeshi, Swatchagrah and Satyagraha.

Polar Vortex

- Polar Vortex is described as a whirling cone of low pressure over the poles that is strongest in the winter months due to the increased temperature contrast between the polar regions and the mid-latitudes, such as the US and Europe.
- The polar vortex spins in the stratosphere.
- Usually, when the vortex is strongest, cold air is less-likely to plunge deep into North America or Europe. In other words, it forms a wall that protects the mid-latitudes from cold Arctic air.
- Meteorologists have blamed a phenomenon called the polar vortex for the bitter cold that has descended on much of the central and eastern United States this week, forcing residents to huddle indoors, closing schools and businesses and cancelling flights.

President's Address at the Beginning of the Budget Session

- Article 87(1) says: “At the commencement of the first session after each general election to the House of the People and at the commencement of the first session of each year the President shall address both Houses of Parliament assembled together and inform Parliament of the causes of its summons.”
- First Constitutional Amendment: Originally, the Constitution required the President to address both Houses of Parliament at the commencement of “every session”. This requirement was changed by the First Amendment to the Constitution.
- The President's speech essentially highlights the government's policy priorities and plans for the upcoming year. It is drafted by the Cabinet, and provides a broad framework of the government's agenda and direction.

World Happiness Report 2019

- The World Happiness Report 2019 is released by the Sustainable Development Solutions Network for the United Nations on March 20, which was designated as the World Happiness Day by the UN General Assembly in 2012.
- Finland has been ranked as the happiest country in the world for the second year in succession.
- Indians are not as happy in 2019 as they were in 2018 and the country figures at 140th place, seven spots down from last year, on UN World Happiness Report- 2019, released recently
- The report ranks countries on six key variables that support well-being: income, freedom, trust, healthy life expectancy, social support and generosity.

World Happiness Report 2019

- According to the report, the overall world happiness has fallen over the past few years, which has mostly been fuelled by a sustained drop in India, which came in 140th place this year compared with 133rd place a year ago.
- The UN's seventh annual World Happiness Report, which ranks the world's 156 countries on "how happy their citizens perceive themselves to be", also noted that there has been an increase in negative emotions, including worry, sadness and anger.
- Finland is followed by Denmark, Norway, Iceland and The Netherlands.

World Happiness Report 2019

- Pakistan is ranked 67th, Bangladesh 125th and China is place at 93rd.
- People in war-torn South Sudan are the most unhappy with their lives, followed by Central African Republic (155), Afghanistan (154), Tanzania (153) and Rwanda (152).
- The happiness study ranks the countries of the world on the basis of questions from the Gallup World Poll. The results are then correlated with other factors, including GDP and social security.

Dollar-Rupee Swap by RBI

- Recently the RBI conducted dollar-rupee swap:
 - It allows the RBI to directly influence rupee value.
 - It will help the RBI to infuse liquidity into the economy.
 - It provides an opportunity for banks to earn interest out of their forex reserves.
- The Reserve Bank of India's decision to resort to dollar-rupee swap helps it to infuse liquidity into the economy.

Dollar-Rupee Swap by RBI

- For the banks, it is a way to earn some interest out of the forex reserves lying idle in their kitty.
- The Reserve Bank of India has decided to resort to dollar-rupee swap instead of the traditional open-market purchase of bonds to infuse liquidity into the economy marks a significant shift in the central bank's liquidity management policy.
- Under the three-year currency swap scheme the RBI will purchase \$5 billion from banks in exchange for rupees.

TRIBES: Betta Kurumba, Paniyar and Yanadi

- Betta Kurumba tribe is found in Nilgiri region of Tamil Nadu and also in adjoining Karnataka and Kerala. To raise funds for the conservation of pachyderms, the Betta Kurumba tribal artisans in the Nilgiris use the invasive lantana weed to mould life-size sculptures that will be later auctioned.
- Yanadi tribal people are nomadic tribe from Andhra Pradesh. A large number of families live in the mangrove forests and marshy lands to hunt wild crabs and fish.
- Paniyar Tribe is mainly found in the state of Kerala.

Chemistry Nobel Prize 2018

- Frances Arnold of the California Institute of Technology, George Smith from the University of Missouri and Gregory Winter of Britain's MRC Laboratory of Molecular Biology were awarded the prize for pioneering science in enzymes and antibodies.
- Ms. Arnold, only the fifth woman to win a chemistry Noble, was awarded half of the \$1million prize while Mr. Smith and Mr. Winter shared the other half. Ms. Arnold's research on enzymes led to the development of better industrial chemicals and pharmaceuticals.
- Mr. Smith developed a method using a virus that infects bacteria to produce new proteins.

Chemistry Nobel Prize 2018

- Evolution has solved complex chemical problems-for example fish can swim in polar oceans as they have developed anti-freeze proteins. Arnold used this concept to build better enzymes. Enzymes are catalysts which speed up chemical processes such as digestion, clotting of blood. More effective the enzymes, quicker the process. She:
 1. introduced random mutations in the DNA of the enzyme
 2. Then the genes were inserted into bacteria which produced randomly mutated enzymes
 3. The mutated enzymes were tested. Those that were most efficient at catalysing the desired chemical reaction were selected
 4. Rest were discarded.

This process was repeated again and again until the enzymes were which gave the best results were arrived at.

This method was called directed evolution.

S-400 Air Defence System

- India is buying five S-400 air defence systems for the Air Force at an estimated cost of Rs.39000 Crore from Russia. It has a horizontal range of 400km. and vertical range of 30 km.

The US has passed the Countering America's Adversaries Through Sanctions Act (CAATSA) Law, under which sanctions will be imposed on countries having significant defence cooperation with Russia.

Alprazolam

- It is a psychotropic drug used for anxiety or depression
- It is benzodiazepine sold under the trade name Xanax
- It is a contraband.
- It causes addiction. Drug acts on brain and changes its chemistry permanently
- It is seized under provisions of the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.
- Other Benzodiazepines: Ativan, Halcion, Klonopin, Librium, Rohypnol, Valium, Diazepam

Standardized Environmental Clearance

- In a move to expedite the process of green clearance for infrastructure and construction projects, the Union Environment Ministry has announced the standardised environmental clearance conditions for airports, ports, harbours, townships and area development projects. It is for 25 industrial sectors like hydroelectric projects, industrial estates, pharmaceutical and chemical industries.
- The standard environmental clearance conditions have been prepared for expediting the process of environmental clearance without compromising environmental norms and the rigour of environment impact assessment.

Standardized Environmental Clearance

- The standard Environment Clearance conditions shall be considered by the concerned EAC (Expert Appraisals Committee) with due diligence while recommending the environment clearance. The EAC can modify and prescribed additional conditions based on the project specific requirements.
- The Ministry of Environment, Forests and Climate Change has notified the environment impact assessment notification, 2006 under the provisions of the Environment Protection Act 1986. Which regulates development and their expansion, modernization of 39 sectors/activities.
- There are two categories of projects: Category A Projects are handled by the ministry and Category B projects are handled by state environment impact assessment authority.

Physics Nobel

- This year the Noble Prize in Physics was awarded to three scientists for ground-breaking inventions in the field of laser physics.
- Arthur Ashkin:91 years old, for 'optical tweezers that grab particles, viruses, atoms and molecules with their laser beam fingers' won one half of the nine million Swedish Kronor (about \$1.01 million)

Physics Nobel

- Gerad Mourou & Donna Strickland (Only the third woman to win): for 'paving the way towards the shortest and most intense laser pulses created by mankind which led to broad industrial and medical applications, including eye operations'.
- Their technique is now used in corrective eye surgery. Mr. Mourou had also developed Extreme Light Infrastructure (ELI) the most powerful lasers, the Apollon.
- It is believed it will help to deal with nuclear waste, treating tumours and clearing debris in space.

One World, One Sun, One Grid

- The first general assembly of the International Solar Alliance (ISA) was held in India.

The membership is restricted to countries between the Tropics of Cancer and Capricorn. Modi suggested the one world-one Sun-one grid concept as Sun is bright in some part of the world, so there is no sun-down any time.

- The International Solar Alliance was launched in 2015 and is headquartered in India.
- So far, 70 countries have signed its framework agreement and 44 have ratified it.

India has set the target of 40% of electricity generation capacity from non-fossil fuels by 2030.

Harmony with Nature

- Over 85 million households now have access to toilets for the first time
- Over 400 million Indians no longer have to defecate in the open
- Sanitation coverage is up from 39% to 95%
- Ujjwala Yojna has significantly reduced indoor air pollution due to unhealthy cooking practices that were causing respiratory diseases. Over 5 crore Ujjwala connections have been distributed
- The Namami Gange. Mission is for cleaning Ganga river.
- AMRUT and Smart Cities Mission

Harmony with Nature

- Over 13 crore soil health cards distributed to farmers are helping them make informed decisions that will boost their productivity and improve the health of our land.
- Green skill development programme- for skilling about 7 million youth in environment, forestry wildlife and climate change sectors by 2021
- The Ujala Yojana has led to the distribution of nearly 31 crore LED bulbs. This helped in reducing electricity bill and carbon dioxide emissions.

World Peace Monument

- Maharashtra Institute of Technology's inaugurated World Peace University (MIT-WPU) campus at Loni Kalbhor on 150th birth anniversary of Mahatama Gandhi.
- It has world's largest dome. At 160 ft in diameter and 263 feet tall, it is larger in area than the dome at St. Peter's Basilica in Vatican City which is 136 feet in diameter and 448 ft in height.
- The dome is built atop the MIT World Peace Library and World Peace Prayer Hall, which are named after the 13th century poet-saint and philosopher Dnyaneshwar- a pivotal figure of Bhakti movement in Maharashtra. Each of the 24 massive columns in the dome stands 63 feet tall. The prayer hall can accommodate 3,500 people and is embellished with portraits of more than 50 accomplished men globally.

Champions of the Earth Award

- United Nations' Top Environmental Award given to Prime Minister Narendra Modi
- Mr. Modi has been recognized in the Policy Leadership Category for his exemplary Leadership in championing the cause of environmental conservation and mitigating climate change.

PM MODI & ENVIRONMENT CONSERVATION: VISION, ACTIONS & MISSION

1. International Solar Alliance: India herald a global coalition of nations to tackle climate change by leveraging the power of solar energy.
2. Elimination of single-use plastic in India: Government of India's initiatives towards making the country free of single use plastics have been appreciated by the United Nations
3. India's efforts and Leadership during COP21 were deeply appreciated globally.

Champions of the Earth Award

4. Contribution to Environment Conservation as the Chief Minister of Gujarat:
 - Initiatives towards water conservation to provide water security
 - Multi-modal interventions helped Ahmedabad reduce pollution drastically
 - Pro-environment policies led Gujarat to become a hub of renewable energy production
5. Renewable Energy: Under PM Modi's leadership, India has registered an unprecedented growth in the production of energy through renewable sources
6. Going a step ahead of discussing climate change, PM Modi is an advocate of climate justice, which places a collective responsibility on the entire humankind to ensure that our future generations inherit a clean and green planet. He has also authored 2 Books on Environment Conservation & Climate Change.

Deaths of Lions in Gujarat

- As per 2015 census there were 523 lions in the Gir forest areas. As per census figures, there were 109 males, 201 females and 213 cubs
- 23 lions have died within 2-3 months. It was found that 4 lions died of Canine Distemper Virus infection while 17 died of Babesiosis Protozoa infection, which is spread by ticks. Reason for the deaths of two lions is yet to be ascertained. Currently 36 lions are under treatment.
- AFRICAN LION: Lions are extinct in 26 African countries and numbers in the wild have plummeted 43% over last two decades, with roughly only 20,000 left, according to the International Union for Conservation of Nature (IUCN) which lists the African lion as vulnerable. Recently, South African lion cubs conceived artificially.

Genes of 'Machhli' to be Mapped

- Machhli was a tiger, an iconic individual has lived long has sired a large number of cubs.
- Ranthambore was her den.
- It is decided to genes of Machhli will be mapped. (Genome Analysis) Once the complete genome map is prepared, it could serve as a template or reference genome for comparing the genes of tigers anywhere.
- Machhli also known as T16, earned that name due to fish-like marks on her face.

Genes of 'Machhli' to be Mapped

- The 20 year-old tigress sired 11 cubs including seven females and four males,
- According to some estimates, was estimated to have brought in about Rs. 65 crore a year as tourism revenue to the National Park between 2006-2016.
- Genome sequencing will figure out the order of nucleotides or DNA bases that make up an individual genome. Experts are using three different genome sequencing technologies to prepare the genome sequence of "Machhli".

Ease of Doing Business

- The Doing Business project by the World Bank provides objective measures of business regulations for local firms in 190 economies. India, recently, has been performing quite well of the Ease of Doing Business Rankings.
- India now ranks 77 among 190 economies (2019). Better score means better chances of FDI
- India has been one of the biggest 'improvers' in the 2019 study, with its rank shooting up from 100 to 77 last year, among 190 countries. Its rank crept up from 142 to 77 in the five years from 2015 to 2019.
- With a rank of 77/190 World Bank now deems India an easier place to do business in than BRICs peers such as Brazil (109) and South Africa (82), however, China has a better rank (46). India's Doing Business Score is 67.23 out of 100.

Ease of Doing Business - 10 Parameters

- Dealing with construction permits.
- Getting electricity for the same.
- Registering your property.
- Getting credit for your business.
- Protecting minority investors.
- Paying Taxes
- Trading across borders.
- Enforcing contracts.
- Resolving insolvency

Where India stands

Indicator	2019	2018
Starting business	137	156
Construction permits	52	181
Getting electricity	24	29
Registering property	166	154
Getting credit	22	29
Protecting minority interests	7	4
Paying taxes	121	119
Trade	80	146
Enforcing contracts	163	164
Resolving insolvency	108	103
Overall rank	77	100



The two years are not strictly comparable due to small methodology changes, but the relative rankings stand

Ease of Doing Business

- The report has many shortcomings.
- **The Ease of Business Report in India does not cover Proprietary and Partnership Firms** - Despite the fact that proprietorship and partnership firms dominate the small business space, the EODB rank does not include these types of firms
- **The Ease of Business Report in India covers only Mumbai and Delhi** - The report does not take into account the red-tapism experienced by the business firms located in tier 2 or tier 3 towns. Delhi and Mumbai cannot be taken as an exact sample of India. Actually, it is the single-window clearance for securing building permits in Delhi and a new online system in Mumbai brought about this quantum change in India's rankings recently.

Thank you