**1st January, 2018**

* **Arunachal declared open defecation-free State**

Arunachal Pradesh has emerged as the second State in the Northeast, after Sikkim, to be declared Open Defecation Free. Arunachal has 21 districts and the State attained the feat much before the national deadline of October 2, 2019.

Arunachal Pradesh has managed to do this before the deadline of October 2, 2019. The state government had cut short the national ODF target by one year and ten months ahead of the national target and set 31 December, 2017, as the final target to achieve ODF status in Arunachal Pradesh.

Swachh Bharat Mission (SBM) aims to eliminate open defecation by 2019. The goal also includes conversion of insanitary toilets to pour flush toilets, eradicating of manual scavenging and Municipal Solid Waste Management (MSWM).

Poor sanitation spreads infectious diseases that kill hundreds of thousands of children each year, and stunt the physical and cognitive development of those who survive. Announcing a goal of accelerating the reduction in open defecation was a great idea, articulating a worthy goal for serious public policy efforts.

* **Telecom ombudsman**

A Parliamentary panel has expressed concern over delay in setting up of an ombudsman to deal with consumer grievances in the telecom sector despite the regulator TRAI recommending it twice.

As per the current trends, on an average around 10 million complaints are lodged with the TSPs each quarter and currently complaints are characterised by high volumes, low-value and from users in diverse geographic locations. Therefore, arrangements like ombudsman are required to address to consumers in a speedy manner. This is also necessary keeping in view of the major changes that has taken place in the Indian telecom sector in the recent past.

A three-stage grievance redress mechanism for telecom sector is proposed that includes — resolution by telecom service providers (TSPs), resolution by Consumer Grievance Redressal Forum (CGRF) — and determination by Telecom Ombudsman.

The ombudsman can be established under rules framed by the Centre, similar to the institution of the insurance ombudsman under the Redress of Public Grievances Rules, 1998 (RPG Rules). The government may, by notification, make rules for carrying out the purposes of this Act. Alternatively, the government can choose to create the ombudsman office through a legislation to be passed by Parliament.

According to the recommendations, the consumer should in the first instance approach the complaint centre of the TSP to seek a solution. It will be the duty of the TSP to look into the request and address the consumer’s concerns within the time frames stipulated by the Authority.

In case, the TSP fails to resolve the complaint in a manner that is satisfactory to the consumer; or does not provide a response; or fails to do so within the prescribed time lines laid down by TRAI, the customer will have the option to seek further redress through an independent mechanism. This would consist of a process of a resolution based on fact finding by Consumer Grievance Redressal Forum (CGRF), followed by, if necessitated, determination by the telecom ombudsman.

A portion of the existing, not in addition, licence fee, is recommended as the funding mechanism for Ombudsman. And in addition to this fixed fee, there will be a variable component payable by each telecom service provider (TSP) depending on the volume of complaints being filed against it and admitted before the ombudsman’s office.

* **National Register of Citizens**

The much-awaited first draft of the National Register of Citizens (NRC) was published with the names of 1.9 crore people out of the 3.29 crore total applicants in Assam recognising them as legal citizens of India. The NRC is being compiled following a Supreme Court directive to identify illegal immigrants in Assam.

Assam, which faced influx from Bangladesh since the early 20th century, is the only state having an NRC, first prepared in 1951. The Supreme Court, which is monitoring the entire process, had ordered that the first draft of the NRC be published by December 31 after completing the scrutiny of over two crore claims along with that of around 38 lakh people whose documents were suspect.

The NRC was last updated in Assam way back in 1951. Then, it had recorded 80 lakh citizens in the State. Since then, the process of identification of illegal immigrants in Assam has been debated and become a contentious issue in the State’s politics.

A six-year agitation demanding identification and deportation of illegal immigrants was launched by the All Assam Students’ Union (AASU) in 1979. It culminated with the signing of the Assam Accord on August 15, 1985.

The National Register of Citizens (NRC) contains names of Indian citizens. The NRC was prepared in 1951, after the Census of 1951. It was prepared by recording particulars of all the persons enumerated during that Census.

* **OCI and PIO cards**

The Govt has stopped the scheme of free conversion of PIO cards to OCI. The scheme of converting the Person of Indian Origin (PIO) cards to OCI cards free of cost comes to an end as a decision has been taken not to give any more extension beyond December 31. However, the change of PIO cards to OCI cards would continue on payment of fees.

Non-Resident Indians (NRI), Person of Indian Origin (PIO) and Overseas Citizen of India (OCI) are the three major categories in which the people from India go and live abroad can be categorised. While NRIs is essentially a term used for Indians that live in another country, PIOs and OCIs are people who want to stay connected and involved with India more closely.

Simultaneous existence of PIO and OCI cards led to confusion among People of Indian Origin residing abroad. Thus, merging PIO and OCI will lead to simplification of the rules under a single umbrella. It would facilitate visa-free travel to India, rights of residency and participation in business and educational activities in the country. This is aimed at simplifying the visa-free entry for people of Indian origin into India.

The merger of the two cards could make PIO cardholders eligible for benefits already enjoyed by OCI cardholders. Merging of the two cards will also facilitate travel of Indians staying abroad and their participation in various activities in India.

**Benefits of a PIO card:**

* A PIO card holder doesn’t need a visa to visit India. The holder also doesn’t require a student or employment visa to acquire employment or academic opportunities in India.
* The holder is also exempted from registering at the foreigner regional registration office (FRRO) during the duration of stay in India.
* The holder also enjoys parity with NRIs in concern to economic, financial and educational matters. These may include matters related to property transfer or acquisition, holding, disposal, investment, admission of children in educational institutions under general category quota for NRIs.
* Separate immigration counters are provided at all International airports in India for PIO card holders.

**Drawbacks of PIO card:**

It does not provide voting rights to the holder. Prior permission is needed to undertake mountaineering expeditions or any such related research work in protected areas.

**The benefits of OCI cards are substantial:**

* OCI is essentially a lifetime visa status offered by India to an Indian person who has given up his citizenship. OCI cards give lifetime multiple entry visa to India.
* If one remains an OCI for 5 years, he/she can attain Indian citizenship and then live in India for a period of one year including short breaks.
* Special immigration counters are provided at all international airports in India for OCI card holders.
* An OCI cards holder can open special bank accounts in India just like NRIs and make investments. OCI holders can also buy non-farm property and exercise ownership rights.
* An OCI card allows to apply for a driver’s license, PAN card or open a bank account in India. They get same economic, financial and educational benefits like NRIs and can also adopt children.

An OCI card holder cannot vote, hold a government job or purchase agricultural or farm land. The person can also not run for public office or travel to restricted areas without permission.

* **Cryptocurrencies are a Ponzi scheme, warns FinMin**

The spurt in the prices of Bitcoin and other cryptocurrencies seems to have rung an alarm bell, with the Finance Ministry expressing concern and likening them to Ponzi schemes.

The ministry has cautioned against investing in them. Noting the “phenomenal increase” in the price of virtual currencies (VCs), including Bitcoin, in India and globally, it said, “VCs don’t have any intrinsic value and are not backed by any kind of assets. The price of bitcoin and other VCs is entirely a matter of speculation resulting in spurt and volatility in their prices.”

Virtual currency (VC) transactions are encrypted and are likely being used for terror-funding, smuggling, drug trafficking and money laundering. Besides, VCs are not reliable as they are stored in digital/electronic format, making them vulnerable to hacking and malware attack.

The government of India is yet to introduce regulations covering the digital currency market, but it already created an interdisciplinary committee to research and to develop a regulatory framework for the sector. The committee’s members included the country’s central bank, the Reserve Bank of India (RBI).

Meanwhile, the Indian Supreme Court has issued an appeal to the government in November to start the drafting of a regulatory framework to ‘control the flow of Bitcoin’ in the country.

Despite its latest warning, the finance ministry has not implemented a total ban on virtual currency trading and has not announced any measures that will curb the adoption and trading of digital currencies in India.

A Ponzi can be any scheme in which the returns to promised to older investors are paid from the money collected from new investors, and not actual profits from the investments. Ponzi schemes were named after Charles Ponzi, a clerk in Boston who, almost a century ago, duped thousands of investors into speculating on phenomenal returns from the humble postage stamp.

Those running a Ponzi scheme reel in their first set of investors by introducing them to a great opportunity. They may even pay up the fanciful returns out of their personal funds. But once investors begin to bite, they build a house of cards, using money from the stream of new entrants, to pay the older patrons.

Even if profits are made from the investments, more often than not, the scheme operators siphon it off to private accounts. As long as new investors are willing to sign up, the Ponzi scheme works. But when the flow of fresh money dwindles, the house of cards collapses.

* **New night frog species**

Scientists have discovered a new frog species from Kozhikode’s Malabar Wildlife Sanctuary. The frog species, named Mewa Singh’s Night frog, belongs to a genus endemic to the Western Ghats. It belongs to genus Nyctibatrachus (commonly known as night frogs) endemic only to Western Ghats mountain range..

* **Two new Ginger species found in the northeast**

Scientists have discovered two new species of Ginger in easternmost districts, Ukhrul in Manipur and Tuensang in Nagaland, both bordering Myanmar. Endemic to India.

**2nd January, 2018**

* **Online portal ‘NARI’**

In a path breaking initiative to empower women, the ministry of Women & Child Development has launched an online portal NARI. It is an online portal developed by the Ministry of Women and Child Development which will provide information to women on issues affecting their lives.

The portal aims to provide women citizens with easy access to information on government schemes and initiatives for women. The portal contains information about schemes being run by both Central as well as the States Governments. It provides links to the Ministries, Departments and autonomous bodies offering these schemes as well as easy access to online applications and grievance redressal.

* **Brahmaputra Board**

The 9th meeting of High Powered Review Board of Brahmaputra Board was recently held at Borgos, Kaziranga in Assam. The meeting was chaired by Sri Nitin Jairam Gadkari, Union Minister for Water Resources, River Development and Ganga Rejuvenation.

High Powered Review Board (HPRB) approved restructuring of Brahmaputra Board and advised that funds should be largely spent for works and limited funds should be spent for establishment costs including salary and wages. HPRB also ratified the project for protection of Majuli Island from flood and erosion for an amount of Rs. 237 crore. A Mathematical Model Study prepared by IIT, Guwahati called Brahma-ID was also launched on this occasion. This project has been sponsored by Brahmaputra Board for an amount of Rs. 3.00 crore.

The Brahmaputra Board is an autonomous statutory body which is responsible for preparation and implementation of plans related to flood management, erosion control, drainage management and water resource development in the Brahmaputra valley. The board was set up under the Ministry of Irrigation (later renamed as Ministry of Water Resources) as per the Brahmaputra Board Act 1980. The Board started functioning from January 11, 1982 and it’s headquarters are located at Guwahati, Assam.

The jurisdiction of the Board includes both the Brahmaputra and Barak Valley and covers all the States of the North Eastern Region, Sikkim and part of West Bengal falling under Brahmaputra river basin. For it’s works and establishments, Brahmaputra Board is provided fund through grant-in-aid by the Central Government.

The Board consists of 21 Members (4 full time Members and 17 part time Members), representing seven states of the North Eastern Region, North Eastern Council, concerned Ministries and Departments of the Government of India. Since creation of Ministry of Development of North Eastern Region (DoNER) and inclusion of Sikkim and part of West Bengal within the jurisdiction of Board, some other representatives of various concerned departments or bodies are also invited as Special Invitees in the meetings of the Brahmaputra Board.

The key objectives of Brahmaputra board include preparation and implementation of Master Plans for management of flood, bank erosion and drainage congestion and development and utilization of water resources of the Brahmaputra Valley in association with States.

* **e-Samvad**

 e- Samvad portal has been launched by the Ministry of Women & Child Development. It is an online platform for NGOs and Civil Societies to interact with the Ministry of Women & Child Development.

Through e-Samvad portal, NGOs and civil society can provide their feedback, suggestions, put up grievances, share best practices etc. Senior Officers within MWCD will be able to view the inputs/suggestions received for their concerned subject areas and appropriately respond to NGOs. This will help in formulation of effective policies and measures for welfare of women and children.

* **India, Pakistan exchange list of nuclear installations**

India and Pakistan recently exchanged, through diplomatic channels simultaneously at New Delhi and Islamabad, the list of nuclear installations and facilities under a three-decade old bilateral pact. This is the twenty seventh consecutive exchange of such a list between the two countries, the first one having taken place on January 1, 1992. The exchange is done each year on January 1, under the Agreement on the Prohibition of Attack against Nuclear Installations and Facilities, also referred to as the Non-Nuclear Aggression Agreement.

The agreement, which was signed on December 31, 1988, and entered into force on January 27, 1991, provides that the two countries inform each other of nuclear installations and facilities to be covered under the pact on the first of January of every calendar year.

The need for the agreement had been felt against the backdrop of Israel’s 1981 bombing of Iraq’s Osirak reactor near Baghdad. The strike, carried out by Israeli fighter jets over hostile airspace, had set Iraq’s nuclear weapons programme significantly.

The agreement had also come at a time of deep anxiety for Pakistan. Islamabad had been rattled by the memory of the 1972 defeat which dismembered the country, and military developments in India, such as Operation Brasstacks in 1987, which was a wargame exercise to prepare for deep strike offensive capabilities. Pakistan had at the time responded by putting at its nuclear installations and assets on ‘high alert’.

* **China develops underwater surveillance networks in Indian Ocean, South China Sea**

China has developed a new underwater surveillance network to help its submarines get a stronger lock on targets while protecting the nation’s interests along the maritime Silk Road, which includes the Indian Ocean. The project is part of an unprecedented military expansion fuelled by Beijing’s desire to challenge the United States in the world’s oceans. It is an underwater surveillance system that is based on a network of platforms — buoys, surface vessels, satellites and underwater gliders — that gather data from the South China Sea, and the Western Pacific and Indian Oceans. The system works by gathering information about the underwater environment, particularly water temperature and salinity, which the navy can then use to more accurately track target vessels as well as improve navigation and positioning.

* **Parker solar probe**

NASA’s Parker Solar Probe is scheduled for launch in 2018 to explore the Sun’s outer atmosphere.

NASA’s historic Parker Solar Probe mission will revolutionize our understanding of the sun, where changing conditions can propagate out into the solar system, affecting Earth and other worlds. Parker Solar Probe will travel through the sun’s atmosphere, closer to the surface than any spacecraft before it, facing brutal heat and radiation conditions — and ultimately providing humanity with the closest-ever observations of a star.

In order to unlock the mysteries of the sun’s atmosphere, Parker Solar Probe will use Venus’ gravity during seven flybys over nearly seven years to gradually bring its orbit closer to the sun. The spacecraft will fly through the sun’s atmosphere as close as 3.9 million miles to our star’s surface, well within the orbit of Mercury and more than seven times closer than any spacecraft has come before.

The primary science goals for the mission are to trace how energy and heat move through the solar corona and to explore what accelerates the solar wind as well as solar energetic particles.

**Why do we study the sun and the solar wind?**

* The sun is the only star we can study up close. By studying this star we live with, we learn more about stars throughout the universe.
* The sun is a source of light and heat for life on Earth. The more we know about it, the more we can understand how life on Earth developed.
* The sun also affects Earth in less familiar ways. It is the source of the solar wind; a flow of ionized gases from the sun that streams past Earth at speeds of more than 500 km per second (a million miles per hour).
* Disturbances in the solar wind shake Earth’s magnetic field and pump energy into the radiation belts, part of a set of changes in near-Earth space known as space weather.
* Space weather can change the orbits of satellites, shorten their lifetimes, or interfere with onboard electronics. The more we learn about what causes space weather – and how to predict it – the more we can protect the satellites we depend on.
* The solar wind also fills up much of the solar system, dominating the space environment far past Earth. As we send spacecraft and astronauts further and further from home, we must understand this space environment just as early seafarers needed to understand the ocean.

**Retrotransposons**

They are the recently identified special genes which could help Symbiodinium adapt more rapidly to heat stress. Symbiodinium is a unicellular algae that provides its coral host with photosynthetic products in return for nutrients and shelter.

High sea temperatures can cause the breakdown of the symbiotic relationship between the algae and corals and lead to the widespread expulsion of Symbiodinium from host tissues, an event known as coral beaching. If bleached corals do not recover, they starve to death, leaving only their white, calcium-carbonate exoskeleton.

Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour. Corals can recover if the water temperature drops and the algae are able to recolonise them.

* **Nagaland declared as ‘disturbed area’ for 6 more months**

The entire Nagaland has been declared as “disturbed area” for six more months, till June- end, under the controversial AFSPA. The decision to continue the declaration of Nagaland as “disturbed area” has been taken as killings, loot and extortion have been going in various parts of the state which necessitated the action for the convenience of the security forces operating there.

The AFSPA has been in force in Nagaland for several decades. It has not been withdrawn even after a framework agreement was signed in August 2015 between the Naga insurgent group NSCN-IM and the government. The framework agreement came after over 80 rounds of negotiations spanning 18 years with the first breakthrough in 1997 when the ceasefire agreement was sealed after decades of insurgency in Nagaland.

AFSPA, enacted in 1958, gives powers to the army and state and central police forces to shoot to kill, search houses and destroy any property that is “likely” to be used by insurgents in areas declared as “disturbed” by the home ministry.

The Act provides army personnel with safeguards against malicious, vindictive and frivolous prosecution. Security forces can “arrest without warrant” a person, who has committed or even “about to commit a cognizable offence” even on “reasonable suspicion”. The state or central government considers those areas as ‘disturbed’ “by reason of differences or disputes between members of different religious, racial, language or regional groups or castes or communities.

Section (3) of the Afspa empowers the governor of the state or Union territory to issue an official notification in The Gazette of India, following which the Centre has the authority to send in armed forces for civilian aid. Once declared ‘disturbed’, the region has to maintain status quo for a minimum of three months, according to The Disturbed Areas (Special Courts) Act, 1976.”

* **India’s second-largest rooftop solar plant**

State-run gas transmission utility GAIL India (GAIL) has commissioned the country’s second-biggest rooftop solar power plant. The solar plant has been commissioned in Uttar Pradesh. Tata Power Solar has commissioned India’s largest solar rooftop project with 12 MW capacity in Amritsar.

* **In A First, Saudi Arabia, UAE Introduce VAT**

Saudi Arabia and the United Arab Emirates have introduced value-added tax, a first for the Gulf which has long prided itself on its tax-free, cradle-to-grave welfare system. It is a five per cent tax on most goods and services to boost revenue. The VAT will be applied on food, clothes, electronics and gasoline, phone, water and electricity bills, as well as hotel reservations.

**3rd January, 2018**

* **‘Perihelion’: Earth closest to sun**

On January 3, the Earth will be at closest to the sun in a phenomenon called ‘Perihelion’. The event, however, cannot be observed. At 11.05 am on January 3rd, the earth will be at the closest point to the sun in its annual elliptical orbit, at a distance of 14,70,97,237 km approximately.

Perihelion is an important event for research and educational purposes although the public cannot observe it. Commonly it is believed that the distance of the earth from the sun decides the season or temperature on the earth. But this is not true. The axial tilt (approx. 23.5 degrees) of the earth on its axis while revolving around the Sun regulates seasons on the earth with one of the hemispheres facing away or towards the Sun.

So, while the earth is closest to Sun this time in January, it is winter in India and countries in Northern Hemisphere, it is summer in the Southern Hemisphere. On July 6, the earth will be at ‘Aphelion’ at 15,20,95,571 km from the sun, i.e. it will be at the farthest point from the sun.

* **President appoints Vinay Sahasrabuddhe as ICCR President**

President Ram Nath Kovind has appointed Rajya Sabha MP Vinay Sahasrabuddhe as President of the Indian Council of Cultural Relations (ICCR).

ICCR is an autonomous organisation of the government of India, tasked with strengthening India’s external cultural relations through exchanges with other countries and their people. The Indian Council for Cultural Relations (ICCR) was founded in 1950 by Maulana Abul Kalam Azad, independent India’s first Education Minister.

Its objectives are to actively participate in the formulation and implementation of policies and programmes pertaining to India’s external cultural relations; to foster and strengthen cultural relations and mutual understanding between India and other countries; to promote cultural exchanges with other countries and people; and to develop relations with nations.

* **Trai issues interconnect rules**

The Telecom Regulatory Authority of India (Trai) has issued the Telecommunication Interconnection Regulations, 2018, that are effective from February 1. It lay down the ground rules for telcos to enter into initial interconnect pacts, provision points of interconnection (POIs) needed to complete calls, undertake augmentation of such points and the associated charges. It has termed interconnection the “lifeline of telecommunication services”.

**New regulations:**

* Phone companies have to ink interconnect pacts on a non- discriminatory basis within 30 days of receiving a request from any licensed carrier. Also, a telco receiving an interconnection request has to offer a draft interconnect pact within five days to the requestor, who, in turn, can submit suggestions/objections in the next five days. Currently, there is no explicit timeline for inking of interconnect agreements.
* Telcos flouting Trai’s interconnection regulations would “be liable to pay an amount, by way of financial disincentive”, capped at “Rs 1lakh per day per licensed service area. A telco seeking POIs will be liable to furnish a six-month bank guarantee from the date of initial interconnection for the total number of ports sought, if such a demand is made by the telco offering interconnection.
* However, interconnection levies such as set-up charges and infrastructure charges “may be mutually negotiated” between service providers as long as they are “reasonable, transparent and non-discriminatory”. But Trai has mandated a detailed process for disconnection of POIs, directing a telco to initially issue a show cause notice of 15 working days citing reasons for the same.

It is the independent regulator of the telecommunications business in India. It was established in 1997 by an Act of Parliament to regulate telecom services and tariffs in India.

The TDSAT was set up to resolve any dispute between a licencor and a licensee, between two or more service providers, between a service provider and a group of consumers. In addition, any direction, TRAI orders or decisions can be challenged by appealing to TDSAT.

In January 2000, TRAI act was amended to establish the Telecom Disputes Settlement Appellate Tribunal (TDSAT) to take over the adjudicatory functions of the TRAI.

* **National Knowledge Network (NKN)**

India has kicked off the process of appointing a telecom company that will connect and extend its state-of-the art National Knowledge Network (NKN) to research and education networks in six South Asian Association of Regional Cooperation member states — Afghanistan, Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka. Pakistan is the only Saarc nation that has been left out of this initiative.

India has for long suspended official talks with Pakistan due to continuing terrorist attacks launched by groups from across the border and chill in the relations is now evident in sphere of research cooperation too. NKN is a multi-gigabit pan-India network which facilitates the development of India’s communications infrastructure, stimulates research and creates next generation applications and services.

With its multi-gigabit capability, NKN aims to connect all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country to address such paradigm shift.

It enables collaboration among researchers from different educational networks such as TEIN4, GARUDA, CERN and Internet2. It also enables sharing of scientific databases and remote access to advanced research facilities. The leading mission oriented agencies in the fields of nuclear, space and defence research are also part of NKN. India has now decided to extend the NKN to the global research and education networks in Saarc nations.

NKN will be connected from Afghanistan to Delhi or Mumbai, from Bangladesh to Kolkata or Delhi, from Bhutan to Kolkata or Delhi, from Nepal to Kolkata or Delhi, from Maldives to Chennai or Mumbai and from Sri Lanka to Chennai or Mumbai. A state-of-the-art management centre and Network Operations Centre will also be set up to run the NKN network. The connection from Afghanistan, Maldives and Sri Lanka to India would be through a submarine cable for international connectivity.

* **H-1B visa**

The US government is considering a proposal that could potentially lead to large-scale deportation of foreigners on H-1B visas for high-speciality workers waiting for their Green Card — mostly Indians — and drastically alter the way high-tech companies operate in the United States.

The United States grants 85,000 non-immigrant H-1B visa every year — 65,000 to foreigners hired abroad and 20,000 to foreigners enrolled in advanced degree courses in US schools and colleges. An estimated 70% of these visas go to Indians — hired mostly by American companies such as Facebook, Microsoft and Google and some by American arms of Indian tech giants Infosys, Wipro and TCS.

The proposal intends to end the provision of granting extensions to H-1B visa holders whose applications for permanent residency (Green Card) had been accepted. The administration also plans to redefine high-speciality professionals for the purpose of H-1B visas.

An estimated 500,000 to 750,000 Indian H-1B visa holders could be sent home if the administration decides to go ahead with the proposal which is aligned with President Donald Trump’s “Buy American, Hire American” vision to boost manufacturing and protect local jobs for Americans.

The US companies, which are large employers of foreign workers but escape the scrutiny facing Indian firms, will be hit the hardest as they are more likely to apply for Green Cards for their H-1B workers than their Indian counterparts, who tend to rotate their workers home at the end of the stipulated period.

The H-1B visa is a non-immigrant visa that allows US companies to employ foreign workers in speciality occupations that require theoretical or technical expertise. The technology companies depend on it to hire tens of thousands of employees each year. An H-1B visa is granted for three years, with the provision of three more with one extension after which visa holders return to their countries. If approved for Green Card, they wait in the US using extensions.

The aim of the H1B visa programme was to supplement the US workforce with high-skilled workers to do jobs that Americans are not skilled to do, not to replace the US workers. But over time, there have been many grumblings that many companies use the H1B visa to replace American workers with foreign ones, as the latter can be hired at lower salaries without compromising on the skill sets. In some cases, American employees have alleged that they were made to train H1B holders to do their own jobs, and then fired.

* **World’s first ‘speed breeding’ technique to boost production of wheat**

Australian scientists have developed the world’s first ‘speed breeding’ technique that can boost the production of the crop by up to three times.

The scientists have used the technique to develop the new ‘DS Faraday’ wheat variety due for release to industry this year. DS Faraday is a high protein, milling wheat with tolerance to pre-harvest sprouting.

By using speed breeding techniques in specially modified glasshouses scientists could grow six generations of wheat, chickpea and barley plants, and four generations of canola plants in a single year – as opposed to two or three generations in a regular glasshouse, or a single generation in the field. The quality and yield of the plants grown under controlled climate and extended daylight conditions was as good, or sometimes better than those grown in regular glasshouses.

This technique uses fully controlled growth environments and can also be scaled up to work in a standard glass house. It uses LED lights optimised to aid photosynthesis in intensive regimes of up to 22 hours per day.

LED lights significantly reduce the cost compared to sodium vapour lamps which have long been in widespread use but are ineffective because they generate much heat and emit poor quality light.

The speed breeding technique has largely been used for research purposes but is now being adopted by industry. There has been a lot of interest globally in this technique due to the fact that the world has to produce 60-80% more food by 2050 to feed its nine billion people. The new technology could also have some great applications in future vertical farming systems, and some horticultural crops.

* **Astronauts Identify Unknown Microbes In Space For First Time**

Astronauts aboard the International Space Station (ISS) have for the first time identified microbes in space without having to samples back to Earth for tests. The ability to identify microbes in space could aid in the ability to diagnose and treat astronaut ailments in real time, as well as assisting in the identification of DNA-based life on other planets.

It could also benefit other experiments aboard the orbiting laboratory. Identifying microbes involves isolating the DNA of samples, and then amplifying – or making many copies – of that DNA that can then be sequenced, or identified.

The International Space Station (ISS) is a space station, or a habitable artificial satellite, in low Earth orbit. The ISS is now the largest artificial body in orbit. The ISS consists of pressurised modules, external trusses, solar arrays and other components. ISS components have been launched by Russian Proton and Soyuz rockets as well as American Space Shuttles.

The ISS serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology and other fields. The station is suited for the testing of spacecraft systems and equipment required for missions to the Moon and Mars. The ISS maintains an orbit with an altitude of between 330 and 435 km by means of reboost manoeuvres using the engines of the Zvezda module or visiting spacecraft. It completes 15.54 orbits per day.

The ISS programme is a joint project among five participating space agencies: NASA, Roscosmos, JAXA, ESA, and CSA. The ownership and use of the space station is established by intergovernmental treaties and agreements. The station is divided into two sections, the Russian Orbital Segment (ROS) and the United States Orbital Segment (USOS), which is shared by many nations. ISS is the ninth space station to be inhabited by crews, following the Soviet and later Russian Salyut, Almaz, and Mir stations as well as Skylab from the US.

* **China to become world’s first country to launch a lunar probe on far side of moon**

China announced its plans to launch a lunar probe in 2018 to achieve the world’s first soft landing on the far side of the moon to showcase its ambitious space programme. The mission is called Chang’e 4 project. Chang’e 4 is the fourth mission in the country’s lunar mission series which is being named after the Chinese moon goddess.

A Long March 4C rocket will start its course to 60,000 kilometers behind the moon carrying a 425-kilogram relay satellite. This relay satellite will act as an initial communication link between earth and the lunar far side.  Once China’s space agency succeeds in establishing the link, China will trigger the second part of the mission i.e. sending a lander and rover to the unexplored region of the moon.

According to experts, landing on the far side of the moon is undoubtedly one of the most challenging missions ever launched by any of the world’s superpowers. The far side of the moon known as ‘South Pole-Aitken Basin’ still remains a mystery among space scientists and by sending a probe there, China will outdo the historical achievements of the US and USSR.

Communication difficulties will be the main problem faced by the Chinese team as they try to land on the other side of the moon. China is expected to consider using options like radio telescopes developed by Heino Falcke of Radboud University to communicate in the absence of a transmitting medium.

China began their lunar exploration program in 2007 by launching a simple lunar orbiter named ‘Chang’e 1’. The second mission in the program named ‘Chang’e 2’ was launched in 2010, and it was later followed by the third mission ‘Chang’e 3’. ‘Chang’e 3’ made headlines all around the world as it marked the first soft moon landing since 1976.

* **China starts collecting environment tax**

China has started collecting an environment tax to better protect the environment and cut pollutant discharge, as the country’s Environmental Protection Tax Law took effect on Jan. 1, 2018. This is China’s first tax clearly designed for environmental protection, which will help establish a “green” financial and taxation system and promote pollution control and treatment of pollutants.

Under the Environmental Protection Tax Law, which targets enterprises and public institutions that discharge listed pollutants directly into the environment, companies will pay taxes for producing noise, air and water pollutants as well as solid waste. Individuals do not need to pay the tax as it is applicable only to enterprises, public institutions and other business operators.

* **GI recognition: Famed Nilambur teak**

Kerala’s Nilambur teak aka Malabar teak has found its place in the Geographical Indications (GI) Registry. GI tag denotes quality and origin of the products and helps keep unscrupulous commercial operators at bay.

The golden brown teak is known for its log dimensions, desired wood figure and wide reputation in the world of trade. Its durability is attributed to the synergistic effect of total extensive components and the resistance to fungal decay to naphthoquinone and derivatives it contains. The hydrophobicity, anti-oxidant properties and oily nature are due to a caoutchouc compound.

* **Species we lost in 2017 and the ones that managed to hold on**

According to the updated IUCN (International Union for Conservation of Nature) red list, here are the species that were marked as “EXTINCT”:

* Christmas Island Pipistrelle : This small bat found exclusively on Christmas Island, Australia was listed as critically endangered last year. Predation, loss of habitat, and diseases were pointed out as causes for its extinction.
* Christmas Island Whiptail-skink : Another species endemic to Christmas Island, this lizard went extinct this year. Non-native predators and insecticide poisoning drove it over the edge.
* Christmas Island chained gekho : The species is listed as extinct in the wild, which means it is now found only in a captive breeding programme.
* Gunthers Dwarf Burrowing skink : Though no record of the skink has been made for more than 125 years, this native of South Africa was officially confirmed to be extinct only this year.

Species placed under the “critically endangered” category:

* Western Ringtail Possum: The number for this species has declined by almost 80 per cent in the past 10 years. Australia’s increasingly dry and hot climate has led to its dramatic decline.
* Yellow-breasted Bunting: Loss of roosting site and use of pesticides are major causes of their its decline.
* Plains Wanderer : Exposure to pesticides, habitat loss, predation by foxes have all affected the survival of this small quail-like bird
* Green Poison Frog, Perret’s Toad, and Rose’s Mountain Toad are also listed as critically endangered.

**4th January, 2018**

* **Jangalmahal Utsab**

Jangalmahal Utsab was recently inaugurated at the Jhargam district in West Bengal. The festival is organised in the state to promote tribal art and culture. Different folk songs and dances such as Tusu, Bhadu, Ahira and Jhumur are performed by the locals of the Jangalmahal area during the festival.

The world Junglemahal is used to refer four districts of the state — Purulia, Bankura, Jhargram and West Midnapore. These four districts were once affected by Maoist insurgency.

* **“Bomb Cyclone”**

A massive winter storm called a “bomb cyclone” is hammering the eastern coast of the US, bringing snow, ice, flooding, and strong winds. The term is used by meteorologists to indicate a mid-latitude cyclone that intensifies rapidly. A bomb cyclone happens when atmospheric pressure in the middle of the storm drops at least 24 millibars over 24 hours, quickly increasing in intensity. The lower the pressure, the stronger the storm.

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

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

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

* **Govt notifies electoral bonds to replace cash donations to political parties**

In an attempt to ensure more transparent financing of political parties participating in elections, the government has announced the introduction of new electoral bonds that donors can buy from the State Bank of India (SBI). The political parties who get these bonds can in turn encash them only through a designated bank account. The bonds will be available at specified SBI branches for 10 days each in the months of January, April, July and October.

Electoral bonds will allow donors to pay political parties using banks as an intermediary. Although called a bond, the banking instrument resembling promissory notes will not carry any interest. The electoral bond, which will be a bearer instrument, will not carry the name of the payee and can be bought for any value, in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh or Rs 1 crore.

Electoral bonds, can be given to a registered political party which has secured at least 1 per cent vote in the last Lok Sabha or state assembly elections. That party will have to give one bank account to the Election Commission and it will have to be encashed within 15 days.

The electoral bonds are aimed at rooting out the current system of largely anonymous cash donations made to political parties which lead to the generation of black money in the economy.

* **Pradhan Mantri Swasthya Surakhsa Yojna (PMSSY)**

The Union Cabinet has approved setting up of an AIIMS in Bilaspur in Himachal Pradesh with an outlay of Rs. 1,350 crore under the Pradhan Mantri Swasthya Surakhsa Yojna (PMSSY).

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) was announced in 2003 with objectives of correcting regional imbalances in the availability of affordable/ reliable tertiary healthcare services and also to augment facilities for quality medical education in the country. The scheme has two components: Setting up of new AIIMS and upgradation of government medical colleges.

Under this scheme, AIIMS have been established in Bhubaneshwar, Bhopal, Raipur, Jodhpur, Rishikesh and Patna while work of AIIMS Rae Bareli is in progress. Also, three AIIMS in Nagpur (Maharashtra), Kalyani (West Bengal) and Mangalagiri in Guntur (Andhra Pradesh) have been sanctioned in 2015 and two AIIMS have been sanctioned at Bathinda and Gorakhpur in 2016.

* **Swine flu**

The Rajasthan government has sounded an alert in the State after more than 400 people were diagnosed positive for the swine flu virus. Nearly 11,721 people were tested for swine flu between January 1, 2017 to December 19, 2017, of which 3,214 were confirmed positive. Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza viruses that causes regular outbreaks in pigs. H1N1 is a flu virus. When it was first detected in 2009, it was called “swine flu” because the virus was similar to those found in pigs.

The H1N1 virus is currently a seasonal flu virus found in humans. Although it also circulates in pigs, one cannot get it by eating properly handled and cooked pork or pork products.

In 2009, H1N1 was spreading fast around the world, so the World Health Organization called it a pandemic.

Swine flu is contagious, and it spreads in the same way as the seasonal flu. When people who have it cough or sneeze, they spray tiny drops of the virus into the air. If a person comes in contact with these drops or touch a surface that an infected person has recently touched, the person can catch H1N1 swine flu.

Pregnant women who contract the H1N1 infection are at a greater risk of developing complications because of hormonal changes, physical changes and changes to their immune system to accommodate the growing foetus.

* **Typbar TCV**

It is a Typhoid conjugate vaccine developed by Bharat Biotech Ltd (BBL). The World Health Organisation (WHO) has pre-qualified its typhoid conjugate vaccine. The new vaccine was found to have given a longer immunity from typhoid than older vaccines and it required fewer doses for childhood immunisation.

The pre-qualification by WHO allows for the sale of the vaccines to UN agencies such as UNICEF and GAVI. Typbar TCV is reportedly the world’s first typhoid vaccine clinically proven for use on recipients who can be as young as six months. A single dose offers 87% protective efficacy against typhoid.

Typhoid fever is caused by food and water contaminated by Salmonella Typhi (S. Typhi) bacteria. The symptoms of the disease include fever, headache, nausea, loss of appetite, constipation and sometimes diarrhoea. According to the World Health Organisation, typhoid affects about 21 million people per year and kills around 222,000.

Created in 2000, Gavi is an international organisation – a global Vaccine Alliance, bringing together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world’s poorest countries. Gavi brings together developing country and donor governments, the World Health Organization, UNICEF, the World Bank, the vaccine industry in both industrialised and developing countries, research and technical agencies, civil society, the Bill & Melinda Gates Foundation and other private philanthropists.

* **Official languages of the UN**

India is pushing forward its proposal to include Hindi as one of the official languages of the United Nations. The ministry of external affairs [MEA] is currently reviewing a draft advocacy paper to present the Indian case with regard to introducing Hindi in the UN.

The procedure for getting any language recognized as one of the Official Languages of the UN involves obtaining approval of the General Assembly. Such a proposal has to be approved by more than half of the members of the General Assembly where every member-State has a vote. In addition, recognizing any language as the official language of the UN entails a substantial increase in the expenditure of the UN necessitating an enhanced contribution by every member country, which is why most of the members remain reluctant to support such a proposal.

According to the estimates around 340 million to 500 million speak, and as many as 800 million people understand Hindi language. Outside India there are countries like Nepal South Africa, Mauritius, the United Kingdom, the United States, Yemen, and Uganda where a significant number people speak Hindi. Also, the government believes that at a time when Indian economy is shining and the country is emerging as next global power it is the best time for the country to promote its national language and get it recognised as an official language of United Nations.

There are six official languages of the UN.  These are Arabic, Chinese, English, French, Russian and Spanish. These languages are used at meetings of various UN organs, particularly the General Assembly, the Economic and Social Council, and the Security Council.

Each representative of a country may speak in any one of these six languages, or may speak in any language and provide interpretation into one of the six official languages. The UN provides simultaneous interpretation from the official language into the other five official languages, via the United Nations Interpretation Service.

The six official languages are also used for the dissemination of official documents. Until a document is available in all six official languages, it is not published. Generally, the texts in each of the six languages are equally authoritative.

The six official languages spoken at the UN are the first or second language of 2.8 billion people on the planet, less than half of the world population. The six languages are official languages in more than half the nations in the world.

Multilingualism enables communication between the UN’s linguistically and culturally diverse Member States within the meeting rooms and halls of the UN. By promoting tolerance, multilingualism also ensures increased participation of all Member States in the Organization’s work, as well as greater effectiveness, better outcomes and more involvement.

India has already started diplomatic efforts to promote Hindi at international level and to gain the support of other countries. The MEA has set up the World Hindi Secretariat in Mauritius along with the ministry of external affairs has prepared Hindi-Chinese, Hindi-Arabic, Hindi-French, and Hindi-Spanish dictionaries to promote Hindi. A consolidated Hindi-based dictionary of UN languages is also under compilation.

* **NABARD Bill**

The National Bank for Agriculture and Rural Development (Amendment) Bill, 2017, was recently passed by voice vote in the Rajya Sabha. The bill was passed by the Lok Sabha in August, 2017.

The Bill seeks to amend the National Bank for Agriculture and Rural Development Act, 1981.

**Increase in capital of NABARD:** Under the 1981 Act, NABARD may have a capital of Rs 100 crore.  This capital can be further increased to Rs 5,000 crore by the central government in consultation with the Reserve Bank of India (RBI). The Bill allows the central government to increase this capital to Rs 30,000 crore.  The capital may be increased to more than Rs 30,000 crore by the central government in consultation with the RBI, if necessary.

**Transfer of the RBI’s share to the central government:**Under the 1981 Act, the central government and the RBI together must hold at least 51% of the share capital of NABARD.  The Bill provides that the central government alone must hold at least 51% of the share capital of NABARD.  The Bill transfers the share capital held by the RBI and valued at Rs 20 crore to the central government.  The central government will give an equal amount to the RBI.

**Micro, small and medium enterprises (MSME):** The Bill replaces the terms ‘small-scale industry’ and ‘industry in the tiny and decentralised sector’ with the terms ‘micro enterprise’, ‘small enterprise’ and ‘medium enterprise’ as defined in the MSME Development Act, 2006.  Under the 1981 Act, NABARD was responsible for providing credit and other facilities to industries having an investment of upto Rs 20 lakh in machinery and plant.  The Bill extends this to apply to enterprises with investment upto Rs 10 crore in the manufacturing sector and Rs five crore in the services sector.

Under the 1981 Act, experts from small-scale industries are included in the Board of Directors and the Advisory Council of NABARD.  Further, banks providing loans to small-scale, tiny and decentralised sector industries are eligible to receive financial assistance from NABARD.  The Bill extends these provisions to the micro, small, and medium enterprises.

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

It is an apex development and specialized bank established on 12 July 1982 by an act by the parliament of India. Its main focus is to uplift rural India by increasing the credit flow for elevation of agriculture & rural non farm sector.

It was established based on the recommendations of the Committee set up by the Reserve Bank of India (RBI) under the chairmanship of Shri B. shivaraman. It replaced the Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of Reserve Bank of India, and Agricultural Refinance and Development Corporation (ARDC).

It has been accredited with “matters concerning policy, planning and operations in the field of credit for agriculture and other economic activities in rural areas in India”.

* **Zojila Pass tunnel**

The Union Cabinet has approved the construction of Asia’s longest bi-directional Zojila Pass tunnel at an estimated cost of Rs 6,089 crore.

It is a 14.2-km long tunnel project in Jammu and Kashmir to provide all-weather connectivity between Srinagar, Kargil and Leh, which remains cut-off from the rest of India during winters due to heavy snowfall. “Zojila tunnel will be the longest bi-directional tunnel in Asia.

The project will be implemented by the ministry of road transport and highways (MoRT&H) through the National Highways and Infrastructure Development Corporation Limited (NHIDCL).

The project would enhance the safety of travellers crossing Zojila Pass and reduce the travel time from 3.5 hours to 15 minutes. This pass is most strategic for the entire Kargil sector which has seen intrusion and war in the past. It will further increase the employment potential for the local labourers for the project activities.

Zojila pass is situated at an altitude of 11,578 feet on Srinagar-Kargil-Leh National Highway which remains closed during winters (December to April) due to heavy snowfall and avalanches cutting off Leh-Ladakh region from Kashmir.

* **Indo-Myanmar agreement on land border crossing**

The Union Cabinet has approved an agreement between India and Myanmar on land border crossing which the government said would enhance economic interaction between people of the two countries.

**Significance of the agreement:**

* The agreement will also facilitate movement of people on the basis of valid passports and visas which will enhance economic and social interaction between the two countries.
* It is expected to provide connectivity and enhance interaction of the people from north-eastern states of India with those of Myanmar.
* The agreement will also safeguard the traditional rights of the largely tribal communities residing along the border which are accustomed to free movement across the land border.

India shares a 1643-km long border with Myanmar in  Arunachal Pradesh, Nagaland, Manipur and Mizoram. Despite threats, the  India–Myanmar border has the Free Movement Regime (FMR), which allows the tribes living along the border to travel 16 km across the boundary without visa restrictions. There are over 250 villages with over 300,000 people living within 10 km of the border who frequently cross the border through 150 small and large, formal and informal, border crossings.

**5th January, 2018**

* **Jal Mahotsav**

India’s biggest water carnival through ‘Jal Mahotsav’ is organised every year in Hanuwantiya Island in Madhya Pradesh. The third such ‘Jal Mahotsav’ concluded this year on January 2.

The festival, held between October and January, is a celebration of Madhya Pradesh’s natural beauty and its culture. It is also a great place to try out a variety of adventure sports like parasailing, paramotoring, water zorbing, and many others. The festival also represents the culture of Madhya Pradesh – a culture that stands for rich skill set of its artisans and rich heritage.

Hanuwantiya island, located on the banks of the Indira Sagar dam in Madhya Pradesh, plays host to India’s largest water carnival – Jal Mahotsav.

* **26th World Book Fair**

The 26th edition of the annual book fair will be held in New Delhi. ***Theme:*** ‘Environment and Climate Change’.

This year’s book fair will host European Union as the Guest of Honour Country. Organised by National Book Trust, in association with ITPO.

New Delhi World Book Fair is not just an opportunity for a reader but it also provides a huge platform to the publishers who exhibit their numerous books at the event. Starting from 200 participants in 1972 the number of participants has gone up to 886 by 2016. The theme of the 2017 edition was -“Writings on Women by Women”.

* **Iceland becomes first country to legalise equal pay**

A new law making it illegal to pay men more than women has taken effect in Iceland. The legislation makes Iceland the first country in the world to legalise equal pay between men and women.

Under the new rules, companies and government agencies employing at least 25 people will have to obtain government certification of their equal-pay policies. Those that fail to prove pay parity will face fines. The move is part of a bid to eradicate the gender pay gap by 2022 in the Nordic nation where 38% of parliamentarians are female – above the global average – including Prime Minister Katrin Jakobsdottir.

Iceland, an island country in the North Atlantic Ocean that is home to approximately 323,000 people, has a strong economy, based on tourism and fisheries. For the past nine years, it has been ranked by the World Economic Forum (WEF) as the world’s most gender-equal country.

The WEF Global Gender Gap Report uses markers such as economic opportunity, political empowerment, and health and survival to gauge the state of gender equality in a country.

According to the latest WEF report, the top five best performers in the global gender gap are Iceland, Norway, Finland, Rwanda and Sweden. Yemen, on the other hand, is currently the lowest-ranked of the 144 countries measured in the report. India is ranked 108. Fifty-two countries fell below the global average in 2017, including China, Liberia and the United Arab Emirates, while 60 saw their overall gender gap decrease. Hungary was the only European country to be ranked lower than the global average, having scored poorly on political empowerment.

* **Global Entrepreneurship Summit 2017 (GES-2017)**

The Union Cabinet has given its ex-post facto approval for the Memorandum of Understanding (MoU) signed between India and the USA for co-hosting the Global Entrepreneurship Summit (GES) 2017 in India. The MoU delineated the responsibilities, areas of co-operation including logistics and venue related requirements between the parties for smooth conduct of the Summit.

The summit organised annually since 2010, is the preeminent annual entrepreneurship gathering that convenes over one thousand emerging entrepreneurs, investors, and supporters from around the world. GES 2017 marks the first GES held in South Asia.

The 8th edition of the Global Entrepreneurship summit (GES) was recently held in Hyderabad. It was hosted by NITI Aayog in partnership with US government. The summit was attended by 1,500 entrepreneurs from 170 countries. **GES 2017 Theme:** “Women First, Prosperity for All”.

The Summit provided opportunities for meeting with global industry leaders, networking of international entrepreneurs, innovators, investors. The summit also provided forum for pitching competition, strategic workshops and sector-programmes to help in creating new collaborations amongst entrepreneurs and Investors. The Summit provided for significantly increased economic opportunities for young entrepreneurs, especially, women entrepreneurs and start-ups.

* **US puts Pakistan on Special Watch List**

The US has placed Pakistan on a ‘Special Watch List’ for “severe violations” of religious freedom, making it the only country to be put under the newly-formed list.

The Special Watch List is for countries that engage in or tolerate severe violations of religious freedom but may not rise to the level of the ‘Countries of Particular Concern’ (CPC). The Special Watch List designation is being seen as a step below designating it as Country of Particular Concern, which would have automatically kicked in economic and political sanctions.

Special watch list is a new category created by the Frank R Wolf International Religious Freedom Act of 2016. The 2016 Frank R Wolf International Religious Freedom Act amended the IRF Act to require the President to designate a ‘Special Watch List’ of countries deemed not to meet all of the CPC criteria but who engaged in or tolerated severe violations of religious freedom. IRF stands for International Religious Freedom.

As per the US, Pakistan was placed in this list because the country continues to harass its religious minorities, has state-sanctioned discrimination against groups such as the Ahmadis, and tolerates extra-judicial violence in the guise of opposing blasphemy.

* **“Countries of Particular Concern” (CPC)**

The US State Department has unveiled its list of countries designated as the worst offenders against religious liberty. These countries are labeled as “Countries of Particular Concern” (CPC). The list includes Burma, China, Eritrea, Iran, North Korea, Sudan, Saudi Arabia, Tajikistan, Turkmenistan, and Uzbekistan. A country is labeled as a CPC after it engages in “systemic, ongoing, [and] egregious” violations of religious liberty. This declaration is in accordance with the International Religious Freedom Act of 1998.

The governments that have been designated as CPCs are subject to ‘Presidential Actions’, such as sanctions, which may include economic or political measures directed against a government to encourage it to improve the state of religious freedom in its country.

The designation of these countries is a key step in ensuring continued U.S. engagement in support of international religious freedom. Also, these designations are aimed at improving the respect for religious freedom in these countries.

* **National Waterway-1**

The Cabinet Committee on Economic Affairs has given its approval for implementation of the Jal Marg Vikas Project (JMVP) for capacity augmentation of navigation on National Waterway-1 (NW-1) at a cost of Rs 5369.18 crore with the technical assistance and investment support of the World Bank.  The Project is expected to be completed by March, 2023.

The Jal Marg Vikas Project seeks to facilitate plying of vessels with capacity of 1,500-2,000 tonnes in the Haldia- Varanasi stretch of the River Ganga. The major works being taken up under JMVP are development of fairway, Multi-Modal Terminals, strengthening of river navigation system, conservancy works, modern River Information System (RIS), Digital Global Positioning System (DGPS), night navigation facilities, modern methods of channel marking etc.

NW 1: Ganga-Bhagirathi-Hooghly river system from Allahabad to Haldia was declared as National Waterway No.1. States covered under NW-1: States: Uttar Pradesh, Bihar, Jharkhand, West Bengal. Alternative mode of transport that will be environment friendly and cost effective. The project will contribute in bringing down the logistics cost in the country. Mammoth Infrastructure development like multi-modal and inter-modal terminals, Roll on – Roll off (Ro-Ro) facilities, ferry services, navigation aids. Socio-economic impetus; huge employment generation.

* **ASA launches 2 missions to explore nearest space**

U.S. space agency National Aeronautics and Space Administration (NASA) is all set to launch two missions to explore a little-understood area 60 miles (96 KM) above Earth’s surface. The missions are named GOLD and ICON.

The Global-scale Observations of the Limb and Disk (GOLD) mission will be launched aboard a commercial communications satellite in January 2018, and the designed spacecraft Ionospheric Connection Explorer (ICON) will be launched later this year.

GOLD and ICON will team up to explore the ionosphere, a boundary area between Earth and the space where particles have been cooked into a sea of electrically-charged electrons and ions by the Sun’s radiation. These layers of near-Earth space are increasingly becoming a part of human domain as it is home to radio signals used to guide airplanes, ships and Global Positioning System satellites.

Among others, the missions’ goals is to measure how upper atmosphere changes in response to hurricanes and geomagnetic storms. GOLD will also explore how the upper atmosphere reacts to geomagnetic storms, which are temporary disturbances of Earth’s magnetic field set off by solar activity. The agency is hoping to find evidences for a theoretical model about El Nino’s repercussions on the ionosphere.

The two missions are complementary. ICON in low-Earth orbit, at 350 miles (560 km) above Earth, flies through and just above the ionosphere, like a close-up camera. GOLD runs in geostationary orbit over the Western Hemisphere, 22,000 miles (about 35,398 km) above the planet’s surface. It will build up a full-disk view of the ionosphere and the upper atmosphere beneath it every half hour.

**6th January, 2018**

* **Council for Trade Development and Promotion**

Shri Suresh Prabhu, Union Minister for Commerce and Industry recently chaired the 3rd meeting of the Council for Trade Development and Promotion.

The Council for Trade Development and Promotion was constituted in July 2015 under the chairpersonship of the Union Minister for Commerce and Industry, in pursuance to the provisions of Foreign Trade Policy statement 2015-20.

The objective was to ensure a continuous dialogue with the governments of states and Union Territories on measures for providing an international trade enabling environment in the states and to create a framework for making the states active partners in boosting India’s exports.

The State Ministers of Commerce and Industry, Secretaries of concerned central departments/Ministries and heads of other export related organizations/trade bodies are Members of the Council.

* **Central Water Commission**

Central Water Commission has received Central Board of Irrigation and Power (CBIP) Special Recognition Award 2018 for Excellence in Health & Safety of Large Dams.

The award has been given in recognition of the contribution made by the Central Water Commission (CWC) for promoting the health and safety of large dams in India through the World Bank aided Dam Rehabilitation and Improvement Project (DRIP).

The Ministry of Water Resources (MoWR), Government of India, with assistance from the World Bank, is implementing the DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP), which would be a six-year project. The Central Dam Safety Organisation of Central Water Commission, assisted by a Consulting firm, is coordinating and supervising the Project implementation.

The project originally envisaged the rehabilitation and improvement of about 223 dams within four states namely, Kerala, Madhya Pradesh, Odisha, and Tamil Nadu and later Karnataka, Uttarakhand (UNVNL) and Jharkhand (DVC) joined DRIP and total number of dams covered under DRIP increased to 250. The project will also promote new technologies and improve Institutional capacities for dam safety evaluation and implementation at the Central and State levels and in some identified premier academic and research institutes of the country.

**The project development objectives of DRIP are:**

1. to improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner, and
2. to strengthen the dam safety institutional setup in participating states as well as at central level.

Central Water Commission is a premier Technical Organization of India in the field of Water Resources and is presently functioning as an attached office of the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.

The Commission is entrusted with the general responsibilities of initiating, coordinating and furthering in consultation of the State Governments concerned, schemes for control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development. It also undertakes the investigations, construction and execution of any such schemes as required.

* **H5 Avian Influenza**

An outbreak of H5 Avian Influenza has been reported from Dasarahalli village from Bengaluru Urban District in Karnataka. On the directions of the Centre, the Karnataka Government has notified the outbreak and initiated the control and containment operations.

A central team of Department of Animal Husbandry, Dairying & Fisheries comprising of two experts has been deputed to Bengaluru for overseeing the operation and to assist the State Government.

Avian influenza, commonly called bird flu, is an infectious viral disease of birds with a tendency of causing large-scale outbreaks of serious disease. Although most influenza viruses do not infect humans, A(H5N1) and A(H7N9) have caused serious infections in people.

Fever, cough, sore throat, muscle, body aches, nausea can lead to severe breathing problems, pneumonia, and acute respiratory distress syndrome.

Human infections with bird flu viruses usually can be treated with the same prescription drugs that are used to treat human seasonal flu viruses.

According to WHO, a few A(H5N1) human cases have been linked to consumption of dishes made of raw, contaminated poultry blood. However, slaughter, handling carcasses of the infected poultry, and preparing poultry for daily consumption in households are likely to be risk factors.

* **ASEAN India Pravasi Bharatiya**

The annual ASEAN India Pravasi Bharatiya Divas is being celebrated at Singapore. The conference, which will be attended by top leaders and businessmen from Singapore and India, will discuss the contribution of the Indian diaspora community in Southeast Asia.

To highlight the “ancient human, maritime, cultural, commercial and religious links between India and Southeast Asia” and to promote greater economic, cultural and diplomatic cooperation between the two regions.

**Theme:** “Ancient Route, New Journey: Diaspora in the Dynamic Asean-India Partnership.”

The event coincides with the 25th anniversary of India-Asean dialogue partnership, which will be marked by a summit on Jan. 25 in New Delhi. Asean leaders have been invited by India to be chief guests at the Republic Day parade in New Delhi on Jan. 26.

Pravasi Bharatiya Divas (PBD) is celebrated every year on January 9 to mark the contribution of overseas Indian community in the development of India. January 9 was chosen as the day to celebrate this occasion since it was on this day in 1915 that Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa, led India’s freedom struggle and changed the lives of Indians forever.

These conventions provide a platform to the overseas Indian community to engage with the government and Indian communities in India for mutually beneficial activities. These conventions are also very useful in networking among the overseas Indian community residing in various parts of the world and enable them to share their experiences in various fields.

* **Bio-toilet project**

The Comptroller and Auditor General’s (CAG) report on bio-toilets has found 1,99,689 defects in 25,000 toilets installed in Railways. Also, according to the data released by national auditor to Parliament, the Indian Railways needs to buy 3,350 truckloads of cow dung at Rs 42 crore in 2018 to “recharge”— add bacteria to activate degradation — leaky, malfunctioning ‘bio-toilets’ that it has fitted on 44.8% of trains and hopes to expand to all trains by 2018.

The bio-toilets are fitted underneath the lavatories and the human excreta discharged into them; these toilets incorporate microbes with an anaerobic digestion process to digest human waste. A colony of anaerobic bacteria acts upon the collected waste and converts the waste into water and biogases (mainly methane and carbon dioxide). While the gases escape into the atmosphere, the wastewater is discharged after disinfection onto the track, thus putting an end to the crisis of railway tracks strewn with excreta.

Each bio-toilet requires 60 litres — or three large bucketfuls — of inoculum, a mix of cow dung and water. This inoculum begins the process of breaking down 3,980 tons of human excreta. Anaerobic bacteria are abundantly available in cow dung.

* **Latte levy**

Britain is considering implementing a “latte tax” to curb the consumption of disposable coffee cups. The fee would amount to 50 cents on top of every coffee sold, and it’s intended to encourage people to use reusable coffee cups.

In the UK, 500 takeaway coffee cups are thrown away every minute. Most takeaway cups aren’t recyclable; they’re laminated with plastic or polyethylene that is difficult to strip away and most recycling facilities aren’t equipped to recycle them.

* **Ethereum**

Ethereum has hit $1,000 for the first time, while investors eye at alternative currencies such as ripple, ethereum and litecoin besides bitcoin. Earlier Ethereum was the second-most valued currency after bitcoin, but now ripple has outpaced it lately. The market capitalization of ripple is $121 billion while ethereum’s market cap is little less than $100 billion on Saturday. Bitcoin, the big daddy of cryptocurrency, still rules the world of digital currencies with a whopping market cap of $280 billion.

It, like most cryptocurrencies, shares the same basic traits as bitcoin. It has underlying blockchain technology with a tethered token, which in this case is known as “Ether.” Ether is the token investors are purchasing.

Unlike most blockchains, Ethereum’s has an added component that’s particularly attractive to enterprise clients: smart contracts. These protocols help to verify, facilitate, or enforce the negotiation of a contract in an efficient and secure manner.

Blockchain is the digital and decentralized ledger that records transactions without the need for a financial intermediary, which in most cases is a bank.

The advantages of blockchain technology are aplenty. First, is the potential for smaller transaction fees as a result of having no third-party involved. Secondly, the decentralization of blockchain ensures that there’s no central hub cybercriminals could attack.

**8th January, 2018**

* **Medaram’s Jatara**

Central government is likely to declare Medaram’s Sammakka-Sarakka/Saralamma Jatara a national festival this year. Once declared a national festival, Jatara can be considered for ‘intangible cultural heritage of humanity’ tag of United Nations Educational, Scientific and Cultural Organisation (UNESCO).

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

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

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

* **Flamingo festival**

The three-day annual Flamingo Festival is being held at Pulicat lake.

Flamingo Festival is held every year to promote tourism in Pulicat and Nellapattu. Flamingo Festival is being organised for the past 12 years. Migratory birds from Siberia have been visiting this place for breeding and the colourful birds are a treat to the eye of bird watchers.

Usually around 80 different avian species migrate to Pulicat for breeding. They hunt in shallow waters of the lake and breed in Pulicat. Once the breeding season concludes, they fly away to their native land with their offspring in tow. The conducive atmosphere for this seasonal avian guests is being conserved at Nelapattu bird sanctuary.

**Nelapattu Bird Sanctuary:** It is considered one of the biggest habitat for some hundreds of pelicans and other birds. Located about 20 km north of the Pulicat Lake on the Andhra Pradesh-Tamil Nadu border, the sanctuary is spread in about 459 hectares.

**About Pulicat lake:** It is the second largest brackish water lake or lagoon in India, after Chilika Lake. It straddles the border of Andhra Pradesh and Tamil Nadu states with over 96% of it in Andhra Pradesh. The lake encompasses the Pulicat Lake Bird Sanctuary. The barrier island of Sriharikota separates the lake from the Bay of Bengal and is home to the Satish Dhawan Space Centre. Two rivers which feed the lagoon are the Arani river at the southern tip and the Kalangi River from the northwest, in addition to some smaller streams. The Buckingham Canal, a navigation channel, is part of the lagoon on its western side.

* **Why is Maharashtra on the boil?**

On January 1, members of the Dalit community on their way to Bhima-Koregaon, a village near Pune, were attacked, allegedly by Hindutva forces. Following this, a State-wide bandh was called.

The Koregaon Ranstambh (victory pillar) is a memorial for British East India Company soldiers killed in a battle on January 1, 1818, in which a small group of infantrymen — about 500 of them Mahars (a Scheduled Caste community) — held off a numerically superior force from the army of Peshwa Bajirao II. The Mahars fought alongside the British, some accounts say, because the Peshwa had scorned their offer to join his army.

After Dr. Ambedkar visited the site on January 1, 1927, it became a place of pilgrimage for Dalits, an assertion of pride. In recent years, attendance has been in the lakhs, with Dalits coming from all over India. This year, the bicentenary, saw an especially large influx.

Sambhaji, Shivaji’s son and successor, was captured by the Mughals; according to legend, he was tortured and his mutilated corpse thrown into the Bhima river. Govind Mahar, a Dalit, gathered the dismembered parts of his body and performed the last rites; later, Mahars of the village erected a memorial to Sambhaji. Govind Mahar’s tomb stands near Sambhaji’s in Vadhu-Budruk village, near Bhima-Koregaon.

* **Ozone layer hole**

The hole in ozone layer has shrunk thanks to the ban of CFCs, Nasa has confirmed, after finding that chlorine levels are rapidly declining in the Earth’s stratosphere.

Last year, satellite images showed the hole had begun to close and could be completely healed by 2060. But it was not clear whether the closure was a direct result of the Montreal Protocol, which was signed by all countries of the world in 1985, phasing out chlorofluorocarbons (CFCs).

Now long-term satellite observations by Nasa have shown a 20% decrease in levels of chlorine in the Earth’s atmosphere since 2005, proving for the first time that the worldwide action is having a dramatic impact on the planet.

A layer of ozone envelops the Earth and keeps damaging ultraviolet, or UV, radiation from reaching living things on the planet’s surface. The ozone layer exists mainly in the stratosphere, a layer of the atmosphere that reaches from 10 to 50 kilometers (about 6 to 30 miles) above the Earth’s surface.

The ozone hole is a region of depleted layers of ozone above the Antarctic region, whose creation is linked to increased cases of skin cancer.

Depletion of ozone is due to many factors, the most dominant of which is the release of chlorine from CFCs (Chlorofluorocarbons) which destroys the ozone. CFCs are released by products such as hairsprays, old refrigerators etc.

Chlorofluorocarbons, or CFCs, are compounds made up of combinations of the elements chlorine, fluorine and carbon; aerosols, refrigerants and foams contain CFCs. When these CFCs enter the air, they rise up into the atmosphere to meet up with and destroy ozone molecules. First used in 1928, CFCs have since become more common as various other CFC compounds were created. Some of the better-known CFCs are the Freon compounds, which were used as cooling ingredients in refrigerators and air conditioners. CFCs have lifetimes from 50 to 100 years.

Once in the atmosphere, CFCs drift slowly upward to the stratosphere, where they are broken up by ultraviolet radiation, releasing the chlorine that catalytically destroys ozone. The process is as follows:

* UV radiation breaks off a chlorine atom from a CFC molecule.
* The chlorine atom attacks an ozone molecule (O3), breaking it apart and destroying the ozone.
* The result is an ordinary oxygen molecule (O2) and a chlorine monoxide molecule (ClO).
* The chlorine monoxide molecule (ClO) is attacked by a free oxygen atom releasing the chlorine atom and forming an ordinary oxygen molecule (O2).
* The chlorine atom is now free to attack and destroy another ozone molecule (O3). One chlorine atom can repeat this destructive cycle thousands of times.

CFCs have some interesting properties which can be fully exploited; therefore there are plenty of uses for these molecules. CFCs are not flammable; therefore they were used as propellants that would push other molecules out of the aerosol sprays. For the same reason CFCs were used to form foamed plastics. Also low flammability enabled people to use these molecules to dry clean hot electronic components of devices such as air conditioning.

* **Kerala’s fight against AMR**

With antimicrobial resistance (AMR) emerging as a major concern in the health as well as allied sectors such as veterinary, dairy, fisheries and poultry, Kerala is all set to launch its strategic action plan for tackling AMR. The draft AMR action plan of the State is in the process of being finalised and implemented. The AMR surveillance data, from seven tertiary care centres in the state, have reported that resistance to Colistin, the last-mile antibiotic available to treat pan-drug resistant Klebsiella pneumoniae strains, is a reality in most government medical college hospitals in the State. besides, AMR surveillance in the State is currently restricted to the sample studies done in tertiary care hospitals but this hardly reflects the situation in the community.

**The draft focuses on 5 strategies:**

* Improving awareness and understanding of the public on AMR.
* Strengthening knowledge through evidence, AMR surveillance.
* Implementation of better infection prevention, control strategies.
* Optimising use of antimicrobial agents in all sectors including health, agriculture, dairy, poultry and fisheries.
* Promoting collaborative research studies on drug resistance in health, allied sectors.

An antibiotic is a drug used to treat bacterial infections in both humans and animals. However, bacteria can change and ﬁnd ways to survive the effects of an antibiotic. This has resulted in antibiotics losing their effectiveness. The more we use antibiotics and the way that we use them can increase the chance that bacteria will become resistant to them. This is known as antimicrobial resistance.

AMR causes a reduction in the effectiveness of medicines, making infections and diseases difficult or impossible to treat. AMR is associated with increased mortality, prolonged illnesses in people and animals, production losses in agriculture, livestock and aquaculture. This threatens global health, livelihoods and food security. AMR also increases the cost of treatments and care.

* **Integrated Disease Surveillance Programme (IDSP)**

Recent data put out by the Union Health Ministry’s Integrated Disease Surveillance Programme (IDSP) has indicated that food poisoning is one of the commonest outbreaks reported in 2017. This is apart from acute diarrhoeal disease (ADD).

The IDSP has interpreted that the incidence of ADD and food poisoning is high in places where food is cooked in bulk, such as canteens, hostels and wedding venues.

Food poisoning, also called food-borne illness, is caused by eating contaminated food. Infectious organisms including bacteria, viruses and parasites or their toxins are the most common causes.

The Integrated Disease Surveillance Program (IDSP) is a disease surveillance scheme under the Ministry of Health and Family Affairs in India, assisted by the World Bank.

The scheme aims to strengthen disease surveillance for infectious diseases to detect and respond to outbreaks quickly. The Project was undertaken to meet the World Health Organization Guidelines for South East Asian countries on disease surveillance to track the outbreak of diseases and its potential trans boundary threats.

The scheme seeks to set up a Central Disease Surveillance Unit and a State Surveillance Unit in each State where data is collected and analyzed.

A large amount of data on disease reports are collected in order to be able to identify the outbreak of a disease, identify its causes and take corresponding preventive and responsive measures. An early warning system has been put into place in order to take timely preventive steps.

The International Health Regulations of 2005 lay down comprehensive guidelines on the role of an International Health Regulation (IHR) contact point in surveillance of disease outbreaks in the country. This information is to be shared during unexpected or unusual public health events. The IHR that came into force in 2007, places an obligation upon member states to report certain outbreak reports in order to track global disease trends through health surveillance.

* **Mankidia denied habitat in Simlipal**

Mankidia, one of the 13 Particularly Vulnerable Tribal Groups (PVTG) in Odisha, have been denied habitat rights inside the Similipal Tiger Reserve (STR) under the historic Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, as the State Forest Department has objected on grounds that tribals could be attacked by wild animals, especially tigers.

“‘Habitat’ as defined under Section 2(h) of the FRA (Forest Rights Act) includes the area comprising the customary habitat and such other habitats in reserved forests and protected forests of primitive tribal groups and pre-agricultural communities and other forest dwelling Scheduled Tribes.

Mankidia is a marginalised group that critically depends on making rope with siali fibre that’s richly available in Similipal.

PVTGs are more vulnerable among the tribal groups. In 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups, while in 1993 an additional 23 groups were added to the category,making it a total of 75 PVTGs out of 705 Scheduled Tribes, spread over 17 states and one Union Territory(UT), in the country (2011 census). Among the 75 listed PVTG’s the highest number are found in Odisha (13), followed by Andhra Pradesh (12).

It is located in Mayurbhanj district in Odisha. It is part of the Similipal-Kuldiha-Hadgarh Elephant Reserve popularly known as Mayurbhanj Elephant Reserve, which includes three protected areas — Similipal Tiger Reserve, Hadgarh Wildlife Sanctuary and Kuldiha Wildlife Sanctuary. Simlipal National Park derives its name from the abundance of semul (red silk cotton trees) that bloom here.

* **India’s second FTII to be set up in Arunachal**

Arunachal Pradesh would get its first Film and Television Institute, being set up by the Union Government as part of tapping the potential of the Northeastern region. This would be the second such one in the country.

The first Film and Television Institute of India (FTII) was set up in Pune, an autonomous institute operating under the Information and Broadcasting Ministry.

**9th January, 2018**

* **All India Whips’ Conference**

The 18th All India Whips’ Conference was recently inaugurated at Udaipur, Rajasthan. The conference is hosting around 90 Delegates belonging to 19 States and Centre.

The purpose of this conference is to strengthen the parliamentary democracy, its institutions and ultimately serve the people at large. The conference provides a platform to Whips of various political parties – ruling as well as opposition at the Centre as well as the States to exchange their views and experiences and discuss the challenges facing them in discharge of their Parliamentary duties and evolve norms for efficient working of parliamentary machinery.

A whip is an important member of a political party’s parliamentary body, having a central role in ‘Floor Management’ in both the Houses of Parliament and is responsible for discipline within the party. Their main job is ensuring that their members in Parliament and legislature vote in line with the party’s official policy on important issues and make sure that the members turn out for important votes.

In the parliamentary form of Government, Whips of various political parties are the vital links of the internal organization of parties, inside the legislatures. The efficient and smooth functioning of Parliament and State Legislatures depends, to a considerable extent, upon the office of the Whip. The Whips can be rightly said to be the managers of the parties within the legislatures.

* It was 18th All India Whips’ Conference and was held at Udaipur, Rajasthan.
* First All India Whips Conference was organized at Indore in 1952, in the very first year of general elections to the First Lok Sabha.
* Organizing the All India Whips Conference is one of the functions assigned to the Ministry of Parliamentary affairs, under Government of India (Allocation of Business) Rules, 1961 made under article 77(3) of the Constitution.

**Supreme Court sets aside order cancelling larger tobacco health warnings**

The Supreme Court has put on hold Karnataka High Court’s order that quashed central government rules mandating larger health warnings on tobacco packages, in a setback for the country’s $11 billion tobacco industry. The court foregrounded the health of citizens over the concerns of the tobacco industry. The court’s decision comes as a relief for health advocates and central health ministry who say bigger health warnings deter tobacco consumption. More than 900,000 people die each year in India due to tobacco-related illnesses, the government estimates.

The Central government had, in 2014, amended the Cigarette and other Tobacco Products (Packaging and Labelling) Rules prescribing that 85% space on both sides of the tobacco packaging would be covered with the statutory warnings telling consumers that cigarette smoking and tobacco chewing were harmful to health. The Cigarette and other Tobacco Products (Packaging and Labelling) Amendments Rules, 2014 were framed under the Cigarette and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003.

**The Karnataka High court had cited the following reasons for striking down the rules:**

* The Ministry of Health and Family Welfare unilaterally framed the Rules without concurrence of the other departments concerned, and this was a violation of the Article 77 (Conduct of Business of Government of India) and the Transaction of Business (ToB) rules framed under it as the subject of tobacco control and legislation was not attached to one department or Ministry.
* Also, the rules were notified even before the Parliamentary Committee on sub-ordinate legislations was examining them. Ministry of Commerce had also opposed 85% area for pictorial warning on the ground that it would not result in any benefit and wanted to restrict the pictorial warnings to 40% or 50%. And the Labour Ministry too had opposed pictorial warning for the reason that it would harm the beedi industry, on which several poor families are depending upon for their livelihood.
* The rules are also contrary to Article 19(1)(g) [right to practise any profession, or to carry on any occupation, trade or business] as they are “unreasonable” restrictions imposed “without application of mind or any basis.”

**BharatNet**

Government has achieved a significant milestone under the BharatNet by completing Phase-1 of the project by connecting over one lakh Gram Panchayats (GP) across the country with high speed optical fibre network as per the declared deadline of 31 Dec 2017. BharatNet network built under Phase 1 envisages delivery of high-speed broadband services in over 2.5 lakh villages benefitting more than 200 million rural Indians.

Bharat Net sought to connect all of India’s households, particularly in rural areas, through broadband, forming the backbone of the government’s ambitious Digital India programme. It proposes broadband connectivity to households under village panchayats and even to government institutions at district level. The project is being funded through the Universal Service Obligation Fund (USOF).

USOF, established in 2002, provides effective subsidies to ensure telegraph services are provided to everyone across India, especially in the rural and remote areas. It is headed by the USOF Administrator who reports to the Secretary, Department of Telecommunications (DoT). Funds come from the Universal Service Levy (USL) of 5% charged from all the telecom operators on their Adjusted Gross Revenue (AGR) which are then deposited into the Consolidated Fund of India, and require prior parliamentary approval to be dispatched.

The USOF works through a bidding process, where funds are given to the enterprise quoting the lowest bid. However, the funds for NOFN were made an exception to this process since BBNL was the sole party involved in the implementation having being specifically created for it.

* **e-Sansad and e-Vidhan**

Government has rolled out e-Sansad and e-Vidhan in Parliament and State Legislatures to digitize and make their functioning paperless.

e-Sansad and e-Vidhan are mission mode projects of Government of India under Digital India, to make the functioning of Parliament and State Legislatures paperless. MoPA is the Nodal Ministry for implementation of both the projects.

These projects would make the functioning of Parliament and State Legislatures participative, responsive, transparent, productive and more accountable to the public and make the entire Legislative process more efficient. Further, this environment friendly initiative is in line with the ‘Go Green’ initiative of the Government.

* **India rejects US solar claim at WTO, explores new defence**

India has hit back at Washington’s latest legal assault on its solar power policies at the World Trade Organization, rejecting a US legal claim and exploring possible new protection of India’s own solar industry.

Last month, the United States had triggered a new round of litigation at the WTO, arguing that India had failed to abide by a ruling that it had illegally discriminated against foreign suppliers of solar cells and modules. However, India said it had changed its rules to conform with the ruling and that a US claim for punitive trade sanctions was groundless.

It may noted here that, in 2014, the US dragged India to WTO on the country’s solar mission. The US alleged that India’s programme appears to discriminate against the US solar equipment by requiring solar energy producers to use locally manufactured cells and by offering subsidies to those developers who use domestic equipment. It also alleged that forced localisation requirements restricted US exports to Indian markets.

India had lost this case as the WTO ruled that India’s domestic content requirements under its solar power programme were inconsistent with the international norms.

National Solar Mission, launched in 2010, aims to establish India as a global leader in solar energy by creating the policy conditions for its diffusion across the country as quickly as possible. The Mission has set the ambitious target of deploying 20,000 MW of grid connected solar power by 2022 and aims at reducing the cost of solar power generation in the country.

* **India unveils Pratyush, its fastest supercomputer yet**

India has unveiled Pratyush, an array of computers that can deliver a peak power of 6.8 petaflops. One petaflop is a million billion floating point operations per second and is a reflection of the computing capacity of a system. The machines will be installed at two government institutes: 4.0 petaflops HPC facility at IITM, Pune; and 2.8 petaflops facility at the National Centre for Medium Range Weather Forecast.

With this, India will now occupy the fourth position, next only to United Kingdom, Japan and USA in terms of dedicated capacity for HPC resources for weather and climate proposes. The UK leads with a capacity of 20.4 Petaflop, followed by Japan with 20 Petaflop and USA with 10.7 Petaflop.

It will also move an Indian supercomputer from the 300s to the 30s in the Top500 list, a respected international tracker of the world’s fastest supercomputers. India had till now occupied the eighth position with a capacity of 1 Petaflop. With the new system, it has now jumped over Korea (4.8 Petaflop), France (4.4 Petaflop) and China (2.6 Petaflop).

The Pratyush HPC will improve weather forecasts and extended range forecasts. It will also predict cyclones and tsunami accurately, with more lead time. It will also help those dependent on agriculture, hydrology and power sectors.

* **Territorial Army battalion of ex-Armymen to clean Ganga**

As part of its mission to clean the Ganga by 2020, the Central government has sanctioned the raising of a Territorial Army (TA) battalion comprising ex-servicemen of the Army. The battalion will be raised in Allahabad, Uttar Pradesh as a Composite Ecological Task Force (CETF) battalion of TA for National Mission for Clean Ganga (NMCG).

The CETF TA battalion, to be commanded by a Colonel-rank officer, will have eight officers, 20 JCOs and around 500 other ranks on its roll. For the task, it will only enroll ex-servicemen, who will be embodied under TA rules.

The battalion will be responsible for monitoring ecological and environmental projects related to the river, and also raise public awareness through campaigns.

The government has allocated Rs 167 crore for the battalion under NMCG, the nodal agency for cleaning the Ganga. The battalion will work on a book debit system with funding provided from the budget of the Ministry of Water Resources, River Development and Ganga Rejuvenation.

India’s first Governor General Shri C Rajagopalachari formally inaugurated the Indian Territorial Army on October 9 in 1949. It is an organization where volunteers apply for a short period of training every year, so as to be ready to tackle any emergent situation or to serve for the defence of India.

The Territorial Army, also known as the ‘Terriers’, is considered the second line of national defence after the regular Army. The Territorial Army is part of a Regular Army and its present role is to relieve the Regular Army from static duties and assist civil administration in dealing with natural calamities and maintenance of essential services in situations where life of the communities is affected or the security of the country is threatened and to provide units for Regulars Army as and when required.

Territorial Army comes under the Defence Ministry. Nine Ecological Task Force (ETF) battalions of TA have been raised to execute specific environment-related projects.

* **Indian Railways conceives to deploy “Drone” cameras**

Indian Railways has decided to deploy “Drone” cameras (UAV/NETRA) for various railway activities especially project monitoring and maintenance of tracks and other railway infrastructure. In this regard, directions have been given to Zonal Railways to procure such cameras. This is in-line with Railways’ desire to use technology to enhance safety and efficiency in train operations.

Drone” cameras will help in monitoring activities of relief and rescue operation, project monitoring, progress of important works, conditions of track and inspection related activities. It shall also be used to assess preparedness of Non-Interlocking (NI) works, crowd management during fairs and melas, to identify scrap and also for aerial survey of station yards. Drones are also going to be instrumental in providing real time inputs related to safety and maintenance of tracks and other railway infrastructure.

Safety has been one of the biggest concerns in the Indian Railways system. While the number of accidents have gone down over the last few years, the number still remains over 100 accidents a year. Railway accidents happen due to several reasons. An incorrect signal, a mistake or an act of negligence by one of its staff directly associated with the running of trains, deficiency in tracks, a rash act by one of the millions of road users, an irresponsible act by a passenger who carries inflammable goods. Added to these are the acts of sabotage.

The world bank has prepared a report titled ‘Strengthening Safety on Indian Railways’. Suggestions include:

* As a measure to avert accidents, the trains are to be equipped with ‘ditch lights’ and painted bright yellow that will enable more visibility even during twilight hours.
* The rail employees should be garbed in “high-visibility” clothes that can be worn round the year. A special heed is to be taken to ensure they wear it on duty at all times. The footwear and helmets are to be chosen by the employees that stay well within the allowance’s range and serve the purpose.
* Every train must be equipped with fire extinguishers and the staff must be well guided on various fire prevention measures.
* The level crossings and paths are to be painted with a crosshatched pattern that can alert and highlight the dangers for people to be in the area.
* The current investigators who have been employed to investigate root-cause of accidents are to be trained for better analysis.
* The authorities have been suggested to review timetables such that a maintenance block of four hours is provided weekly on all main lines as well as review safety performance in terminal operations with the intent of recognising prevailing risks.
* An independent rail safety regulator is to be created by the railways to strengthen the powers of commissioner of railway safety and form a safety management system under the Chairman, Railway Board.
* To address derailments, fires, or any other possible mishap, an emergency response plan is to be constituted.

Under this initiative, West Central Railways with headquarter at Jabalpur (M.P) has become the first Zonal Railway to procure “Drone” cameras in Indian Railways.

* **Zuma Mission**

It is the US government’s secret satellite mission. SpaceX has successfully launched the secretive Zuma mission from Cape Canaveral.

**10th January, 2018**

* **Madhubani paintings**

The folk painting of Madhubani will soon be seen decorating the walls of various government buildings in Bihar, the eastern Indian state where the art hails from. The idea behind painting the town in Madhubani is to give visitors a firsthand experience of how the paintings are blended with the region’s culture.

Madhubani, which means ‘forest of honey’, is a style of folk painting old enough to find mention in some of the ancient Indian texts like the holy Ramayana. It is also known as Mithila, for its origin is said to be the Mithila region in Bihar.

Traditionally, the Madhubani paintings are created using fingers and twigs, and items like matchsticks have come to be used in their creation in recent times. Their various styles include Bharni, Katchni, Tantrik, Godna, and Kohbar, which would historically be painted only by women from the upper strata in the caste system, who would make them on mud walls on special occasions.

The norms have now changed and the paintings can be enjoyed by anyone and in various forms. Madhubani is now found on apparel, paper, canvas, and other products, which boast of designs inspired by Hindu deities such as Krishna, Rama, Lakshmi, Shiva, Durga, Saraswati, all of whom have been painted in Madhubani since ancient times. Other subjects of Madhubani paintings include peacocks, fish and human connection with nature.

* **Haryana becomes first state to launch High Risk Pregnancy portal**

Haryana has achieved the distinction of becoming the first state in the country to launch High Risk Pregnancy (HRP) Portal. The Union ministry of health and family welfare and Niti Ayog have acknowledged the portal as a good practice to be implemented.

This innovative web application has been designed to track every high risk pregnant woman till 42 days after delivery, so that she receives adequate treatment during the ante-natal period for healthy outcome of pregnancy. This portal not only helps in early identification of high-risk pregnant cases up to the grass-roots level but also ensures their timely referral to the civil hospitals for further management and delivery by specialists.

The High Risk Pregnancy Policy has been implemented across the state since November, 2017, for identifying 100 per cent name-based high-risk pregnancy cases, and ensuring their delivery by specialists at civil hospitals. This initiative is aimed at increasing the pace of decline in Maternal Mortality Rate (MMR), Infant Mortality Rate (IMR) and Still Birth Incidence as morbidity and mortality is quite high in high risk pregnant cases.

**Birth companion strategy:** Haryana is also implementing birth companion strategy under which one female attendant would be allowed during delivery in the labour room. The presence of a female birth companion during delivery is a step towards improving the quality of care in labour rooms for improving the maternal and neo-natal outcome and for respectful maternity care.

* **The Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)**

A one-day National Conference on Welfare of Laboratory Animals was recently organised by CPCSEA, Ministry of Environment, Forest and Climate Change, with the theme of “Implementation of 3Rs (Replacement, Reduction and Refinement) while using animals in academic research and regulatory testing in India.

The conference laid emphasis on the issue of ethical use of animals in academics and regulatory testing in India. The discussions were focussed on evaluating the possibilities of exemption of animal experiments in academics and regulatory testing.

The Committee for the Purpose of Control and Supervision of Experiments on Animals(CPCSEA) is a statutory Committee, which is established under Section 15(1) of the Prevention of Cruelty to Animals Act 1960. All establishments engaged in research and education involving animals, are required to comply with the various guidelines, norms and stipulations set out by CPCSEA.

India is one of the pioneering countries to institute Prevention of Cruelty to Animals Act in 1960 whereas such Act was instituted in France in 1963 and in USA in 1966. The detailed rules for experimentation on animals were first enacted by the Ministry of Agriculture in 1968 and were implemented by CPCSEA.

**The main functions of CPCSEA are:**

* Registration of establishments conducting animal experimentation or breeding of animals for this purpose.
* Selection and appointment of nominees in the Institutional Animal Ethics Committees of registered establishments.
* Approval of Animal House Facilities on the basis of reports of inspections conducted by CPCSEA.
* Permission for conducting experiments involving use of animals.
* Recommendation for import of animals for use in experiments.
* Action against establishments in case of violation of any legal norm/stipulation.

**No viable alternative to hanging, Centre tells court**

Considering the “dynamic progress” made in modern science to adopt painless methods of causing death, the court had asked the government to explore viable methods other than hanging to execute condemned prisoners.

The centre has said that there is no viable method at present other than hanging to execute condemned prisoners.

The court has favoured a re-look at the practice of hanging to death as “the Constitution of India is an organic and compassionate document which recognises the sanctity of flexibility of law as situations change with the flux of time”. The court notes that a condemned convict should die in peace and not in pain. A human being is entitled to dignity even in death.

Also, execution was not only “barbaric, inhuman and cruel”, but also against the resolutions adopted by the United Nations Economic and Social Council (ECOSOC).

The court is hearing a writ petition which has sought the court’s intervention to reduce the suffering of condemned prisoners at the time of death. The petitioner notes that a convict should not be compelled to suffer at the time of termination of his or her life. When a man is hanged to death, his dignity is destroyed, the petition says.

The petitioner has also referred to Article 21 (Right to Life) of the Constitution and said it also included the right of a condemned prisoner to have a dignified mode of execution so that death becomes less painful.

Constitutionality of death penalty has been well-settled by the apex court, including in Deena versus Union of India and earlier in the Bachan Singh case reported in 1980. Section 354 (5), which mandates death by hanging, of the Code of Criminal Procedure has already been upheld.

The Law Commission in its 187th Report had noted that there was a significant increase in the number of countries where hanging has been abolished and substituted by electrocution, shooting or lethal injection as the method of execution. It had categorically opined that hanging is undoubtedly accompanied by intense physical torture and pain.

The present procedure can be replaced with intravenous lethal injection, shooting, electrocution or gas chamber in which death is just a matter of minutes. While in hanging, the entire execution process takes over 40 minutes to declare prisoner to be dead, the shooting process involves not more than few minutes. In case of intravenous lethal injection, it is all over in 5 minutes.

* **Microbeads ban takes effect**

A UK-wide ban on the manufacture of products containing microbeads has come into force on 9 January. Manufacturers can no longer add tiny pieces of plastic to wash-off cosmetic and personal care products (such as exfoliating scrubs, shower gels and toothpaste).

However, this isn’t a complete ban – ‘leave-on’ products (such as sunscreen and makeup) will still be allowed to contain microbeads following the cosmetic industry’s resistance. In a nutshell, microbeads are tiny pieces of plastic found in many beauty products, such as exfoliating scrubs, toothpastes and more.

Evidence has shown that microbeads can find their way from your bathroom to the sea. Trillions of tiny pieces of plastic are accumulating in the world’s oceans, lakes and estuaries, harming marine life and entering the food chain.

The United States passed the Microbead-Free Waters Act of 2015, which required companies to stop using microbeads in beauty and health products by July 2017, and Canada’s ban on manufacturing the pellets took effect at the beginning of this year. New Zealand’s ban on microbeads is to take effect in June. Several countries in the European Union have campaigned for a similar ban.

* **What happens to the human body in space?**

Space is a dangerous and unforgiving place, and spending time away from gravity takes its toll on the human body, as many astronauts have found out after returning to Earth.

Recently, Japanese astronaut Norishige Kanai announced that he had stretched a staggering 9cm (3.5in) in just three weeks onboard the International Space Station (ISS). However, he later admitted he had miscalculated the figure and it was actually just 2cm (0.9in), but significant height changes are actually normal for astronauts spending time in space.

The effect happens as the astronauts’ spines stretch out, because of the reduced gravity on board the floating lab. Because the vertebrae aren’t being pushed together as much as they are on Earth, they are able to float apart and lead to the strange stretching phenomenon. They shrink back down to their usual size once back on Earth and affected by its gravity.

 **Health issues for astronauts to overcome:**

* The rapid change of gravity in space can cause a loss of bone density of up to 1% a month. This could lead to osteoporosis-related fractures and long-term health problems.
* Lack of gravity can also cause body fluids to shift upwards, which may cause swelling, high-blood pressure and vision and organ problems. Nutrition and exercise become very important, and special measures like medications and body cuffs aim to reduce the risk of long-term medical problems associated with muscle and bone wastage.
* Living in isolation and confinement can cause behavioural and psychological issues. Without a natural body clock, depression and sleep disorders can develop. The space station uses LED technology to imitate light on Earth to improve body rhythms.
* A closed environment also means microbes in the body can transfer more easily. The environment can weaken the immune system, so urine, saliva and blood samples are carefully monitored to make sure dormant viruses have not been reactivated.
* Radiation exposure is far higher in space than it is on Earth. Without the shielding of Earth, you could be more at risk of cancer and damage to the nervous system. Space radiation can also cause sickness and fatigue. The ISS sits just within the protective field on Earth to reduce risks, but missions further afield will need to overcome this.

**Ancient Rock Art in India Is Oldest Depiction of Supernova**

Scientists in India have discovered rock art that appears to depict a supernova and the surrounding stars, buried inside the wall of an ancient dwelling place. Thought to date from 3,600 BC, the carving would be the oldest-known depiction of such a cosmic event. The carving was found in the Burzahama region in Kashmir, India.