

CURRENT AFFAIRS

16th MAY TO 31st MAY 2017

ICBM DEFENCE SYSTEM: USA

The U.S. military launched first-ever missile defense test involving a simulated attack by an intercontinental ballistic missile, in a major milestone for a program meant to defend against a mounting North Korean threat.

BIOFUEL

IN NEWS: Researchers at IIT Kharagpur have developed a new technology which will change the way biofuel is manufactured by making the process cheaper, quicker and pollution-free.

The 'soil-to-soil' manufacturing technology developed at the P.K. Sinha Centre for bio-energy at IIT-Kgp is in the process of being patented.

HIGHLIGHTS

- 2gm bioethanol can be produced from various naturally available ligno-cellulosic components. But to do so it needs to be treated chemically. Because of chemical treatment the process contributes to polluting the environment.
- **Lignocellulose** refers to plant dry matter (biomass).
- **Lignin** is a complex organic polymer deposited in the cell walls of many plants, making them woody.
- It is soil-to-soil technology, an integrated process where natural resources extracts gaseous and liquid biofuel and then converting the wastes into bio fertilizer.

NATIONAL POLICY ON BIO-FUELS

- The National Policy On Biofuels had set the target at **20% blending of biofuel with petrol by 2017**.
- Presently the project is funded by the Ministry of Petroleum and Natural Gas, Department of Science and Technology and the Ministry of Human Resource Development.
- The green leafy part of corn and sugarcane plants, the waste part of paddy straw, bamboo, banana plant, pineapple and cotton plants, kans grass (kassh phool), castor plant and even non-edible weeds that grow in dry and waste land and a mix of all has been used to produce biofuel.

DARWAZA BAND CAMPAIGN

IN NEWS: The centre launched a new campaign titled 'Darwaza Band' to promote toilet use and freedom from open defecation across the country's villages.

The campaign produced by the **Ministry of Drinking Water and Sanitation under Swachh Bharat Mission**.

- The 'Darwaza Band' campaign has been supported by the World Bank and is being rolled out countrywide immediately after the launch.
- It is designed to encourage behaviour change in men who have toilets but are not using them.
- Behaviour change has been the focus of Swachh Bharat Mission, which is being pursued through a countrywide comprehensive IEC (Information-Education-Communication) programme.
- Communication campaigns have been taken up both, at the central and State levels, for promoting sustained use of toilets and for sustaining the Open Defecation Free status achieved.

GOA BANS PLASTIC BAGS

The Goa government has decided to ban buying and selling of plastic bags below 50 microns from July, to tackle the garbage and litter menace in public places. Goa has already banned plastic bags below 40 microns.

“SEE THROUGH FROG”

IN NEWS: A newly identified frog species with transparent skin through which its beating heart is visible is under the **threat of extinction**.

The frog (*Hyalinobatrachium yaku*), discovered in the Amazonian lowlands of Ecuador, has unique physical and behavioural traits.

“Males guard the eggs, which are attached below a tree’s leaves, until they hatch and fall on the water stream below.

Not all glass frogs have hearts that are visible through the chest. In some, the heart itself is white, so one can’t see the red blood.

If the stream dries up, or becomes polluted, the frogs can’t survive.

SATYABRATA ROUT

IN NEWS: **Satyabrata Rout**, a professor from the Department of Theatre Arts, S N School of Arts and Communication, University of Hyderabad (UoH) has been awarded **Sangeet Natak Akademi Puraskar** for the year 2016.

- He was one of the pioneers of ‘visual theatre’ in India, and has ‘Scenography: An Indian Perspective’.
- He has directed a number of plays, participated in national and international theatre festivals and conducted numerous theatre workshops across the globe.
- Award is the highest Indian recognition given to practicing artists.

AERONAUTICAL TEST RANGE

IN NEWS: The Aeronautical Test Range (ATR) developed by Defence Research Development Organisation (DRDO) near Challakere in Chitradurga district Karnataka.

Stressing on the need for creating homegrown facilities for defence purposes, he said that with facilities like the ATR, India can aspire to become a world leader in defence technology.

The ATR has been partially operating since December 2010. The project faced several hurdles as local farmers had protested against land acquisition for the project.

EXTREMELY LARGE TELESCOPE

IN NEWS: Construction began in Chile on the European Extremely Large Telescope, which when completed will be the world's largest optical telescope, some five times larger than the top observing instruments in use today.

Located on a 3,000 meter-high mountain in the middle of the Atacama desert, it is due to begin operating in 2024.

Among other capabilities, it will add to and refine astronomers' burgeoning discoveries of planets orbiting other stars, with the ability to find more smaller planets, image larger ones, and possibly characterize their atmospheres, a key step in understanding if life is present.

The ELT is being funded by the **European Southern Observatory**, an organization consisting of European and southern hemisphere nations.

COBRA LILY

The incredibly rare *Arisaema translucens*, more commonly known as the cobra lily, was recently rediscovered in the western Nilgiris after 84 years.

They can be found only in a small area measuring less than 10 square kilometres in the Nilgiris.

The Toda tribals of the Nilgiris, who know the plant well, have an embroidery motif known as the 'podwarshk', which resembles it.

The indigenous community could predict the early arrival of monsoon from the blooming of the cobra lily's 'translucens'.

Prized for their beauty around the world, cobra lilies are at even greater risk of extinction from the commercial trade in exotic plants.

Of the handful cobra lily species found in the Nilgiris, only two are endemic.

Cobra lilies have vanished in the past decades along with the disappearance of the shola tree patches in which they were found.

HILLARY STEP

- The Hillary Step was a 12-metre-tall rocky outcrop on the south-east ridge of the Mount Everest.
- The near vertical outcrop is named after Edmund Hillary who was the first to scale Everest in 1953.
- The Step was considered one of the trickiest part of climbing the world's highest peak.
- Mountaineers confirmed last week that the Hillary Step on Mount Everest has collapsed, possibly during the earthquake in Nepal in 2015.

BIO – SOLAR WIND MICROGRID CENTRE

The President of India has inaugurated a Bio-Solar-Wind Microgrid Centre and Centre for Water and Environment Research at Indian Institute of Engineering Science & Technology, West Bengal.

The purpose behind setting up of these centres is to ensure that electricity is available for ordinary people and potable water is provided for consumption of both humans and animals.

The facilities are crucial from the perspective of socio-economic development. Centres such as these are the need of the hour, with resource sustainability and environmental protection having become pressing global issues.

A micro-management of power system using renewable energy sources will lead to self-sufficiency in high consuming destinations like institutions and industry.

RAILWAY SAFETY CESS

Plagued by repeated derailments, the railways is considering imposing safety cess on train tickets to be utilised for strengthening accident prevention measures.

The cess could be fixed at less than 2% of the total fare amount.

A safety cess was last levied in 2002 during Nitish Kumar's term as the railway minister to service a special fund of Rs 17,500 crore.

The fund was set up to take up several tasks, including restoration of old bridges, besides signaling and track modernisation works.

IN – VITRO GAMETOGENESIS (IVG)

IVG is defined as the generation of eggs and sperm from pluripotent stem cells derived from adult body tissues, such as skin cells. This may lead to the creation of embryos from these gametes.

Although IVG's attempts in human and nonhuman primates have so far been unsuccessful, the authors point out that studies in mice have already illustrated the immense opportunities brought by this technique.

Some scientists are even talking about what they call the "Brad Pitt scenario" when someone retrieves a celebrity's skin cells.

IVG may raise the spectre of 'embryo farming' on a scale currently unimagined, which might exacerbate concerns about the devaluation of human life.

SHAKTI

Scheme for Harnessing and Allocating Koyala (Coal) Transparently in India:

BENEFITS

- Coal available to all Power Plants in transparent and objective manner.
- Auction to be made the basis of linkage allocations to Independent Power producers.
- Cheaper and affordable 'Power for All'.
- The Stress on account of non-availability of linkages to Power Sector Projects shall be overcome. Good for the Infrastructure and banking Sector.
- Power Purchase Agreement holders to reduce tariff for linkage; Direct benefit of reduced tariff to Discom/consumers.

NATIONAL BIOTECHNOLOGY DEVELOPMENT

IN NEWS: The National Biotechnology Development Strategy 2015-2020 announced by the Department of Biotechnology lays emphasis on making India ready to meet the challenge of achieving US \$100 billion biotech industry by 2025.

The focus is on generation of biotech products, processes and technologies for affordable and accessible health care, promoting innovation R&D, establishing India as world class biomanufacturing hub, and building the required skilled workforce.

To achieve this, it is important to promote industry-academia interface.

The CCEA has given its approval for Industry-Academia Collaborative Mission for accelerating discovery research to early development for biopharmaceuticals - "Innovate in India (13) empowering biotech entrepreneurs & accelerating inclusive innovation" to be funded by the Government of India.

The Mission will be implemented by **Biotechnology Industry Research Assistance Council (BIRAC)** - a Public Sector Undertaking of Department of Biotechnology (DBT).

The Mission will focus on Development of specific products - vaccines, biotherapeutics, medical devices and diagnostics; establishment of shared infrastructure and facilities; building and strengthening domain specific knowledge and management skills; creating and enhancing technology transfer capabilities in public and private sector.

KEEZHADI EXCAVATION

Keezhadi in Sivaganga district was chosen for excavation and artefacts unearthed by the ASI pointed to an ancient civilisation that thrived on the banks of the Vaigai.

Carbon dating of charcoal found at the Keezhadi site established that the settlement there belonged to 200 BC.

The excavations thus proved that urban civilisation had existed in Tamil Nadu since the Sangam age.

The Union Ministry of Culture has announced that the third phase of excavation will begin in this month and go on for three years.

WORLD ORGANISATION FOR ANIMAL HEALTH

The OIE is the intergovernmental organisation responsible for improving animal health worldwide.

It is recognised as a reference organisation by the World Trade Organization (WTO) and in 2016 has a total of 180 Member Countries.

The OIE maintains permanent relations with 71 other international and regional organisations and has Regional and sub-regional Offices on every continent.

The day-to-day operation of the OIE is managed at the Headquarters situated in Paris.

DEEP OCEAN MISSION

Government of India is all set to launch 'Deep Ocean Mission' by January 2018 and it will improve India's position in ocean research field.

Achievements in the field of ocean research: The program on Poly metallic nodules was initiated at CSIR-NIO with the collection of the first nodule sample from Arabian Sea on board the first Research Vessel Gaveshani on 26 January 1981.

India was the first country in the world to have been given the Pioneer Area for exploration of deep-sea mineral viz. Polymetallic nodules in the Central Indian Ocean Basin in 1987.

Based on the resource evaluation, India has now retained an area of 75,000 sq km with an estimated resource of about 100 million tons of strategic metals such Copper, Nickel, Cobalt besides Manganese and Iron.

A First Generation Mine-site (FGM) with an area of 18,000 sq km has been identified. Latest technologies for extraction of metals from the minerals have also been developed under the programme.

SMOOTH COATED OTTER

In the pristine forests in Roerich Estate, Bengaluru, a wild otter was spotted through camera traps.

The species is found in most of the Indian Subcontinent and eastwards to Southeast Asia, with a disjunct population in Iraq.

Smooth-coated otters are found in areas where fresh water is plentiful — wetlands and seasonal swamps, rivers, lakes, and rice paddies.

Major threats to Asian otter population are loss of wetland habitats due to construction of large-scale hydroelectric projects, reclamation of wetlands for settlements and agriculture, reduction in prey biomass, poaching, and contamination of waterways by pesticides.

The smooth-coated otter is listed as a vulnerable species. Their range and population are shrinking due to loss of wetland habitat and contamination of waterways by pesticides.

The otters are also protected in India under the Wildlife (Protection) Act, 1972.

RED SANDERS

Red sanders or red sandalwood, is a species endemic to the southern Eastern Ghats mountain range of South India.

It is a rare kind of sandalwood that is in high demand in international market and costs around Rs.1,500 to Rs.2,000 a kg.

The major markets for the wood are China, Japan, the Middle East, Sri Lanka, Bhutan and Nepal.

This tree is valued for the rich red color of its wood. The wood is not aromatic. The tree is not to be confused with the aromatic Santalum sandalwood trees that grow natively in South India.

Pterocarpus santalinus is listed as an Endangered species by the IUCN, because of overexploitation for its timber in South India.

It is also listed in the appendix II of the CITES, which means that a certificate is required in order to export it, that should only be granted if the trade is not detrimental to the survival of the species.

3D BIOPRINTED CARTILAGE

A team from Indian Institute of Technology (IIT) Delhi has been successful in 3D bioprinting of cartilage using a bioink.

The bioink has high concentration of bone-marrow derived cartilage stem cells, silk proteins and a few factors.

The chemical composition of the bioink supports cell growth and long-term survival of the cells.

The cartilage developed in the lab has remained physically stable for up to six weeks.

While the cartilage found in the knee is an articular cartilage that is typically sponge-like and has a huge load-bearing capacity, the ones produced in the lab so far are of a different kind — transient cartilage.

Unlike articular cartilage, transient cartilage becomes bone cells and, therefore, brittle within a short time.

As a result, the engineered cartilage loses its capacity to bear huge load that is typically encountered in the knee.

NATIONAL WATERWAYS

The Union Cabinet has accorded its approval for amendment of Central Road Fund Act, 2000 to allocate 2.5% of the proceeds of Central Road Fund (CRF) for development and maintenance of National Waterways (NWs).

An allocation of 2.5% of CRF proceeds would provide approximately Rs.2000 crore per annum for the development and maintenance of NWs at existing rates of duties funding the CRF.

The National Waterways Act, 2016 for developing and maintaining the existing five NWs and new 106 NWs has been passed by Parliament and is now enforced.

The arrangement approved by the Cabinet; would make available adequate and sustainable source of funding for NWs through institutional means of CRF.

NOTE: Please revise National Waterways. Very Imp.

INDIA'S LONGEST BRIDGE

The Prime Minister inaugurated India's longest bridge - the 9.15 km long Dhola-Sadiya bridge, over the River Brahmaputra, in Assam.

The bridge will enhance connectivity and greatly reduce travel time between Assam and Arunachal Pradesh.

It is named after the famous singer **Bhupen Hazarika**.

STATE BUTTERFLY

The **Southern Bird Wing** has been designated as the '**State butterfly**' of **Karnataka**. It is the largest butterfly in India and is endemic to south India, particularly Karnataka.

Karnataka is second state in the country to adopt a state butterfly. Maharashtra had chosen the Blue Moron in 2015.

It should be noted here that state butterfly tag does not come with additional protection.

YELLOW EYED PENGUIN

Yellow-eyed penguins could be wiped out in 25 years:

Researchers have predicted that New Zealand's iconic Yellow-eyed penguins may go extinct within the next 25 years due to rising ocean temperatures and climate change.

The study highlights where conservation efforts could be most effective in building penguins' resilience against climate change. It is classified as endangered by the IUCN.

HENDERSON ISLAND

Henderson island, located in south Pacific Ocean, has been classified as the most polluted place on the earth by Tasmania's Institute for Marine and Aquatic Studies. The island contained 37.7 million pieces of debris.

The island is a world heritage site. It lies between Chile and New Zealand. Its under British control.

It is one of the world's last two raised coral atolls.

TECHNOLOGY PARK ON ORNAMNETAL FISHERIES

India's first Aquatic Rainbow Technology Park (ARTP) in Chennai, an ultra modern exclusive facility for ornamental fish equipped with multi-species hatchery and live feed culture units, will become operational in the next three months, fulfilling a major requirement of the industry for mass production of high-value aquarium fish.

The facility is being developed by Fisheries College and Research Institute (FCRI), Ponneri in Tamil Nadu, the second largest exporter of ornamental fish after West Bengal.

After the completion, it will be handed over to ornamental fish breeders and farmers on lease for three years.

ISRO RECEIVED INDIRA GANDHI PRIZE

The Indian Space Research Organisation (ISRO) was recently presented with the Indira Gandhi Prize for Peace, Disarmament and Development for the year 2014.

The ISRO was selected for the prize in 2014 by a jury headed by Vice-President Hamid Ansari.

It consists of a trophy made of banded Haematite Jasper, with a portrait of the late Prime Minister Indira Gandhi in Jaipur miniature paintings, a cash award of 1 crore and a citation.

HADR EXERCISE

The Annual Joint Humanitarian Assistance and Disaster Relief (HADR) Exercise involving multiple agencies and being conducted by Indian Navy's Western Nava Command has commenced at Naval Station Karwar.

Named as "KARAVALI KARUNYA", the exercise, which involves both professional exchange and actual disaster response mechanisms is set on a Tsunami disaster scenario.

SANKHYIKI BHAWAN

It is the newly inaugurated office of the NSSO. The new building houses all divisions under one roof. Now, with all Divisions under one roof, it will improve coordination of various work at a very closer level resulting speedier and better output.

Established in 1950, the National Sample Survey Office conducts nation-wide large-scale sample surveys to obtain comprehensive and continuing information relating to social, economic, demographic, industrial and agricultural aspects.

BLESS U 2

It is a robot priest that beams lights from its hands and grants automated 'blessings' to people. It was recently launched in Germany.

CYCLONE MORA

Cyclone Mora has formed in the east-central part of Bay of Bengal and it is expected to move towards the north-east part of India. According to the Indian Meteorological Department, it is expected to intensify into a 'severe cyclonic storm' over the next 24 hours. According to the IMD, wind speeds will be in the range of 100-150 kilometres per hour.

According to an Accuweather report, the coastal region of Bangladesh is prone to storm surges and that the topography along with high population density has earlier resulted in eight out of the top ten 'deadliest' cyclones to originate in the Bay of Bengal

FISH CARRYING GENES FROM FATHER ONLY

Scientists have discovered a fish carrying genes only from its father in the nucleus of its cells.

These genes are found in a type of fish called *Squalius alburnoides*. They are thought to have arisen from hybridisation between females of one species, *Squalius pyrenaicus*, and males of another species, now extinct, that belonged to a group of fish called *Anaocypris*.

To sustain its population, *Squalius alburnoides* mates with several other closely related species belonging to the *Squalius* lineage.

These fishes normally inhabits rivers in Portugal or Spain.

This is the first documented instance in vertebrates of a father producing a near clone of itself through sexual reproduction — a rare phenomenon called androgenesis.

ELECTRIC VEHICLES LAUNCHED IN NAGPUR

India's first multi-modal electric vehicle project was recently launched at Nagpur.

This unique project brings together e-buses, e-cabs, e-rickshaws and e-autos on a single platform, the Ola App, which will enable commuters in Nagpur to book them.

The fleet of 200 vehicles consists of 100 of Mahindra's new e20 Plus vehicles, besides those from other manufacturers like Tata Motors, Kinetic and TVS.

SIAM BHARAT

It is the Indo-Thailand Humanitarian Assistance and Disaster Relief (HADR) Table Top Exercise 2017 held recently in Chiang Mai, Thailand between the Indian Air Force and Royal Thailand Air Force (RTAF).

The aim of the bilateral exercise is to evolve SOPs for planning and executing relief missions during unforeseen natural calamities like Tsunami, earthquakes, cyclones, floods etc. The objective is to enhance interoperability between both the Air Forces, while conducting combined air operations triggered by a crisis. The exercise would assist in laying down procedures and establish decision support system at various stages of relief operations.

NATIONAL HACKATHON

State Bank of India (SBI) has launched a national hackathon for developers, start-ups and students to come up with innovative ideas and solutions for the banking sector.

The hackathon, named 'Code For Bank', will focus on the business value driven by technologies like predictive analytics, fin-tech/blockchain, digital payments, IOT, artificial intelligence, machine learning, BOTS and robotic process automation.

GOOGLE LAUNCHED ALPHA GO IN CHINA

AlphaGo is a narrow AI, computer program developed by Alphabet Inc.'s Google DeepMind in London to play the board game Go. In October 2015, it became the first Computer Go program to beat a human professional Go player without handicaps on a full-sized 19×19 board.

AlphaGo's algorithm uses a Monte Carlo tree search to find its moves based on knowledge previously "learned" by machine learning, specifically by an artificial neural network (a deep learning method) by extensive training, both from human and computer play.

IARI IN ASSAM

IN NEWS: The Prime Minister laid the Foundation Stone of the Indian Agricultural Research Institute at Gogamukh in Assam.

- "SAMPADA" Yojana, to boost value addition in agriculture.
- "**Panch Tatva**" - five elements to boost connectivity in the North-East: Railways, Highways, Airways, Waterways, and i-ways.

POLICY FOR GOVERNMENT PROCUREMENTS

IN NEWS: The Union Cabinet has approved a policy for providing preference to 'Make in India' in government procurements.

The policy will be implemented to provide purchase preference (linked with local content) in Government procurements. Under the policy, preference in Government procurement will be given to local suppliers.

- Local suppliers are those whose goods or services meet prescribed minimum thresholds (ordinarily 50%) for local content.
- In procurement of goods for Rs. 50 lakhs and less, and where the Nodal Ministry determines that there is sufficient local capacity and local competition, only local suppliers will be eligible.
- For procurements valued at more than Rs. 50 lakhs (or where there is insufficient local capacity/competition) if the lowest bid is not from a non-local supplier, the lowest-cost local supplier who is within a margin of 20% of the lowest bid, will be given the opportunity to match the lowest bid.
- If the procurement is of a type that the order can be divided and given to more than one supplier, the non-local supplier who is the lowest bidder will get half of the order and the local supplier will get the other half if it agrees to match the price of the lowest bid.
- If the procurement cannot be divided, then the lowest cost local supplier will be given the order if it agrees to match the lowest bid.
- Small purchases of less than Rs.5 lakhs are exempted. The order also covers autonomous bodies, government companies/entities under the government's control.

A Standing Committee in Department of Industrial Policy and Promotion will oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.

BSNL'S SATELLITE PHONE SERVICE

IN NEWS: The Minister of State for Communications (IC) Manoj Sinha launched BSNL's satellite phone service and Pandit Deen Dayal Upadhyaya Telecom Skill Excellence Award Scheme & Pandit Deen Dayal Upadhyaya Sanchar Kaushal Vikas Pratisthan Scheme

- Global satellite phone service is modern satellite phone service.
- In first phase agencies handling a disaster, state police, railways, Border security forces and other government agencies will be given in the first phase.
- Later people while travelling in flight and on ships will be able to use it.

- The services will be provided by **INMARSAT** which has a constellation of 14 satellites.
- 10,000 people from 10 States/UTs to be trained in the first phase under the scheme of Pandit Deen Dayal Upadhyaya Sanchar Kaushal Vikas Pratisthan Scheme.
- Uttar Pradesh, Bihar, Odisha, Punjab and Haryana are included in the first phase.
- DoT to be established more than 1,000 Sanchar Kaushal Vikas Pratisthan in future under the newly launched scheme.
- DoT will provide broadband connection to 2.5 lakh Gram Panchayat by December 2018.

SWACHH BHARAT APP

IN NEWS: “Swachh Bharat App” has been launched in National Museum under Ministry of Culture.

The main focus of this “Swachh Bharat App” is to basically involve people actively to become part of Swachh Bharat Abhiyan (Clean India Movement).

- In this App the concept of Physical web is implemented.
- When one are in the monument or Museum it will deliver you the message about Swachh Bharat Abhiyan and ask you to report the garbage around you.
- All you need is to enable the Bluetooth of your mobile device. Even if anybody did not have the App installed then also the message will be delivered by Google about the Swachh Bharat Abiyan and which will give you the link to install the App.
- Once you start the App it will ask to take photograph of the garbage and write the comment and just submit. It will be reported to the authority on the backend.

INDIA'S FIRST UNDER WATER TUNNEL

IN NEWS: The tunnel work under the Hooghly river, the first such underwater project in the country, to provide metro connectivity between Howrah and Kolkata is about to complete.

The underwater tunnel is a crucial link for the railways’ 16.6-km long East-West Metro project in Kolkata.

- Rachna, a giant tunnel-boring machine (TBM), was deployed to dig the underwater tunnel that runs a length of 502 metres under the river.
- Afcons Transtonnelstroy is an Indo-Russian joint venture.
- The project connects Howrah to the west and Salt lake to the east.
- The 520-metre twin tunnel, one east-bound and the other west-bound, is built 30 metre below the riverbed.
- Commuters between Howrah and Mahakaran metro stations will be under the river for only about a minute when the metro train will pass through the tunnel at a speed of 80 km per hour.
- The East-West Metro is scheduled to be operational by August 2019.
- There will be walkways in the tunnels for evacuation of passengers in case of emergency.

- For the railways, besides the tunnel under the Hooghly river, drilling work is going on for the seven-km-long under- sea route of the Mumbai-Ahmedabad rail corridor to ascertain soil condition for India's first bullet train path.

FOREIGN INVESTMENT PROMOTION BOARD TO BE ABOLISHED

IN NEWS: The Union Cabinet has given its approval to the phasing out of Foreign Investment Promotion Board (FIPB). The proposal entails abolishing the FIPB and allowing administrative Ministries/Departments to process applications for FDI requiring government approval.

The work relating to processing of applications for FDI and approval of the Government thereon under the extant FDI Policy and FEMA, shall now be handled by the concerned Ministries/Departments in consultation with the Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce, which will also issue the Standard Operating Procedure (SOP) for processing of applications and decision of the Government under the extant FDI policy.

E-SANAD

IN NEWS: The three different ministries (**MEA, MeITY & MHRD**) jointly launched the online verification platform e-Sanad where the applicants both in India and abroad can digitally attest their documents.

- At the inauguration of e-Sanad the government announced its integration with CBSE's digital repository '**Parinam Manjusha**'.
- Telangana is chosen as the first state to pilot test eSanad.
- This eSanad is a part of Digital India Programme.

Parinam Manjusha is the digital platform where the students can view their various academic CBSE certificates online. It was launched last year by CBSE in collaboration with National e-Governance division (NeGD) (Digi locker), Ministry of Electronics and Information Technology. This platform is also useful for educational institutions to verify the certificates submitted by students.

LIGHT UTILITY HELICOPTER MAKES ITS FIRST FLIGHT

The second prototype of the Light Utility Helicopter, **LUH PT2**, made its first flight in Bengaluru and flew smoothly for 22 minutes.

The three-tonne-class LUH is being developed as a reconnaissance and surveillance vehicle for military and civil users.

When ready, the LUH is designed to fly 350 km at a speed of 220 kmph; it can reach a maximum height of 6.5 km and carry a payload of 400 kg.

AIRLANDER 10

At a mammoth 302 feet (92 meters) long, the blimp-like Airlander 10 is the largest aircraft currently flying. It is a Hybrid Air Vehicles.

- A massive airship dubbed the Airlander 10 recently completed a successful test flight, bringing the helium-filled behemoth one step closer to commercial use.
- Though it looks like a massive blimp, the Airlander 10 combines technology from airplanes, helicopters and airships.
- It is designed to stay aloft at altitudes of up to 20,000 feet (6,100 meters) for up to five days when manned, according to Hybrid Air Vehicles, the company that built the aircraft.
- It first debuted as HAV-304, and successfully flew in 2012 as part of the U.S. Army's Long Endurance Multi-intelligence Vehicle program.
- This latest flight had two main objectives first was to determine how the Airlander handles, including the aircraft's new, additional "landing feet" that make up the Auxiliary Landing System (ALS). The second was to collect data on the flight's performance, such as airspeed.

PAYTM PAYMENT BANK LAUNCHED

With the launch of Paytm Payment Bank, there are now three payments banks in the country, including Airtel Payments Bank Ltd and India Post Payments Bank Ltd.

A payments bank is a differentiated bank that allows customers to open savings accounts for deposit amounts of up to Rs1 lakh. As of now, Paytm Payments Bank is offering the service by invitation only.

NASA NAMED NEW ORGANISM AFTER ABDUL KALAM

Scientists at NASA have named a new organism discovered by them after the much-loved A P J Abdul Kalam.

The new organism a form of bacteria has been found only on the International Space Station (ISS) and not even on earth.

Researchers at the Jet Propulsion Laboratory (JPL), the foremost lab of NASA for work on inter-planetary travel, discovered the new bacteria on the filters of the International Space Station (ISS) and named it **Solibacillus kalamii** to honour the late president, who was a renowned aerospace scientist.

- Kalam had his early training at NASA in 1963 before he set up India's first rocket-launching facility in the fishing village of Thumba in Kerala.
- The name of the bacterium is Solibacillus kalamii, the species name is after Dr Abdul Kalam and genus name is Solibacillus which is a spore forming bacteria.
- These spore formers tend to withstand high radiation and also produce some useful compounds protein wise which will be helpful for biotechnology application.
- The new bug could be a key source for chemicals that can help protect against radiation damage.

INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY

2017 Theme: “Biodiversity and Sustainable Tourism”

The celebration of the International Day for Biological Diversity under the theme “Biodiversity and Sustainable Tourism” is an opportunity to raise awareness of the important contribution of sustainable tourism both to economic growth and to the conservation of biodiversity.

This theme has been chosen to coincide with the observance of 2017 as the International Year of Sustainable Tourism for Development and can contribute to ongoing initiatives such as the Sustainable Tourism Programme.

The **Convention on Biological Diversity** is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" that has been ratified by 196 nations.

The objectives of halting biodiversity loss and promoting the sustainable use of terrestrial and inland freshwater ecosystems are included in Sustainable Development Goal No.15.

COMMON RISK MITIGATION MECHANISM FOR SOLAR POWER GENERATION

IN NEWS: Commissioning a Study on Common Risk Mitigation Mechanism for Solar Power Generation Projects in Solar Resource Rich Countries Under Aegis of ISA.

Argentina, Burkina-Faso, Chad, France, India, Ivory Coast, Mali, Namibia, Niger, Nigeria, Sénégal, Uganda and Yemen have jointly supported commissioning of a study to define and structure a Common Risk Mitigation Mechanism (CRMM) for solar power generation projects in solar rich countries.

This is a major step in the implementation of the Paris Declaration of the International Solar Alliance (ISA) adopted on 30 November 2015 and of the ISA Programme aimed at mobilizing “Affordable finance at scale”.

- The proposed CRMM will offer a simple and affordable tool that will create a secure environment for private institutional investment in solar assets.
- The instrument will help diversify and pool risks on mutualized public resources and unlock significant investments.
- The study was entrusted by the Interim Secretariat to a task force chaired by Terrawatt Initiative (TWI), the World Bank Group, the Currency Exchange Fund (TCX), the Council on Energy, Environment and Water (CEEW) and also the Confederation of Indian Industries (CII).

M.S. SWAMINATHAN: THE QUEST FOR A WORLD WITHOUT HUNGER

IN NEWS: The Prime Minister released a two-part book series on the eminent agricultural scientist Dr. M.S. Swaminathan. The series is titled - M.S. Swaminathan: The Quest for a world without hunger.

MODERN ARTILLERY GUNS

- Two of the 145 M-777 ultra-light howitzers arrived in India from the US.
- It will be the first induction of the howitzers after the Bofors scandal broke out nearly 30 years ago.
- The howitzers are being procured for the Indian Army and will be deployed along the India-China border.
- India has struck a government-to-government deal for 145 howitzers with the US at a cost of around \$700 million.
- According to the deal, the first 25 guns will be bought directly from the US and the rest will be assembled in India.

ANSHU JAMSENPA

Indian mountaineer **Anshu Jamsenpa** has climbed the Mount Everest yet again, the fourth time in six years.

Jamsenpa from Arunachal Pradesh earlier scaled Mount Everest thrice. She conquered the peak twice within 10 days between May 12 and 21, 2011, and made her third successful attempt on May 18, 2013.

EARTH 2.0

IN NEWS: An 'Earth-like' planet orbiting our closest neighbouring star, Proxima Centauri, about 4.2 light years away may have water and the potential to support alien life.

The **planet Proxima B** was discovered in August last year, and is thought to be of similar size to Earth, creating the possibility that it could have an 'Earth-like' atmosphere.

Early studies have suggested that the planet is in the habitable zone of its star Proxima Centauri — the region where, given an Earth-like atmosphere and suitable structure, it would receive the right amount of light to sustain liquid water on its surface.

Researchers simulated the climate of Proxima B if it were to have a similar atmospheric composition to Earth.

The team also explored a much simpler atmosphere, comprising of nitrogen with traces of carbon dioxide, as well as variations of the planets orbit.

NARMADA SEVA MISSION

IN NEWS: Prime Minister launched a road-map for steps to be taken for the conservation of the Narmada river in Madhya Pradesh.

The event held at Amarkantak in Anoopur district. Amarkantak is the place where the river originates. It marked the conclusion of ‘Namami Devi Narmade Sewa Yatra’.

Narmada, also known as Rewa, is one of only three major rivers in the country that flows from east to west. The other two are Tapti and Mahi.

INTERNATIONAL COMPARISON PROGRAM (ICP)

IN NEWS: The 48th Session of the United Nations Statistical Commission (UNSC) took place from March 7-10, 2017 in New York. The Commission discussed the report of the World Bank that described the efforts undertaken at the global and regional levels to launch the 2017 comparison cycle and turn the ICP into a permanent program.

International Comparison Program (ICP)

- The ICP is a worldwide statistical initiative led by the World Bank under the auspices of the United Nations Statistical Commission, with the main objective of providing comparable price and volume measures of gross domestic product (GDP) and its expenditure aggregates among countries within and across regions.
- Through a partnership with international, regional, sub-regional and national agencies, the ICP collects and compares price data and GDP expenditures to estimate and publish purchasing power parities (PPPs) of the world’s economies.

PPPs are widely used to convert national accounts data, like GDP, into a common currency, while also eliminating the effect of price level differences between countries. Since the demand for comparable volume aggregates is high, PPPs play a key role in the analyses carried out by policymakers, multilateral institutions, and private sector actors, among others.

- Sustainable Development Goals and Millennium Development Goals. (United Nations)
- Human Development Index. (United Nations Development Programme)
- Poverty rates at international poverty line, size of the economy, and price levels in the World Development Indicators. (World Bank)
- Country group aggregates and growth rates in the World Economic Outlook and country quota formula. (International Monetary Fund)
- Allocation of the European structural and investment funds. (European Union)
- Analysis of national competitiveness. (National policymakers)
- Welfare measures, consumption patterns, trade, productivity and competitiveness, energy efficiency, health and education costs and other uses. (Academic and research institutions)
- Evaluation of investment costs across countries. (Private sector)

AKASH MISSILE SYSTEMS

IN NEWS: The Defence Ministry has decided to cancel the Army's global contest for Short Range Surface to Air Missile (SR-SAM) systems and instead procure two additional regiments of the indigenously developed Akash missile systems.

The Army is expected to begin inducting the systems by December 2018.

ZIKA CASES IN GUJARAT

IN NEWS: The Union Health Ministry has confirmed that three cases of Zika were reported from Ahmedabad.

Zika virus is a member of the virus family Flaviviridae. It is spread mostly by the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus).

Its name comes from the Zika Forest of Uganda, where the virus was first isolated in 1947.

It can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause certain birth defects.

There is no vaccine or medicine for Zika.

Zika infection during pregnancy can cause a birth defect of the brain called microcephaly and other severe brain defects. It is also linked to other problems, such as miscarriage, stillbirth, and other birth defects.

There have also been increased reports of Guillain-Barré syndrome, an uncommon sickness of the nervous system, in areas affected by Zika.

REANG Tribe OF TRIPURA

More than 100 km from the Tripura's capital of Agartala, at the Karnamanipara village in Dhalai district, Chandirung and Phitarung are the only women who can be spotted wearing traditional Reang jewellery called lukoih (a unique necklace made of colourful beads) and rangbauh (a necklace made of coins).

189 Reang-inhabited village councils/gram panchayats covering 28 blocks from six out of the eight districts of Tripura.

- One of the concerns highlighted in the publication by Professor Reang is the limited access to education. Education has been pressing a concern for the tribe. As per the 2001 census, 66.93% of the Reang population is illiterate.
- Traditionally, jhum (shifting) cultivation has been one of the primary agricultural activities of the Reang tribe. However, with land rights being granted, many members of the community have taken to ploughing or settled cultivation.
- The Reang dialect is of **Tibetan-Burmese origin** and is locally referred to as **Kau Bru**.

- Though there is no script for the language, some publications follow the Bengali or Roman script to keep the language alive.
- A museum dedicated to the culture of the Reang tribe is being set up at the office of the department in the Gorkha Basti area of Agartala. The museum seeks to showcase cultural aspects of Reang life in attire, ornaments, dance and rituals.
- One of the unique dances of the Reang is **the Hodaigiri/Hojagiri**, in which a group of women balance themselves on earthen pitchers and manage other props. The performance is associated with the harvest.

GLOBAL PLATFORM FOR DISASTER RISK REDUCTION 2017

IN NEWS: India is participating in the five day Global Platform for Disaster Risk Reduction (GPDRR) summit being held in Mexico.

The GPDRR is a global forum for strategic advice, coordination, partnership development and review of progress in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, which was adopted at the Third UN World Conference on Disaster Risk Reduction held in March 2015 in Sendai, Japan.

The summit will mark the first opportunity since 2015 to review global progress in the implementation of SFDRR.

PRICES CAPPED FOR 31 DRUGS

The National Pharmaceutical Pricing Authority (NPPA) has capped the prices of 31 more drugs. The notification brings under price control **intrauterine Devices** used for birth control; Factor VIII, a life-saving medicine for haemophilic patients; morphine, a pain killer; and rifampicin, a powerful antibiotic used to treat infections such as tuberculosis and leprosy.

With these 31 drugs, the NPPA has brought 791 medicines under price control. There are 829 drugs on the National List of Essential Medicines, 2015, all of which will be brought under price control.

Background:

The NPPA periodically revises prices of essential medicines under the Drug (Pricing Control) Order (DPCO) that has about 650 formulations under it. These prices can be increased by companies by a maximum of 10% depending on inflation.

National Pharmaceutical Pricing Authority (NPPA)

NPPA is an organization of the Government of India which was established to fix/ revise the prices of controlled bulk drugs and formulations and to enforce prices and availability of the medicines in the country, under the Drugs (Prices Control) Order, 1995. The organization is also entrusted with the task of recovering amounts overcharged by manufacturers for the controlled drugs from the consumers. It also monitors the prices of decontrolled drugs in order to keep them at reasonable levels.

PRADHAN MANTRI SWASTHYA SURAKSHA YOJANA

The 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 Bhubaneswar, 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.

SARAL EINDHAN VITARAN APPLICATION (SEVA)

IN NEWS: Union Minister of State (IC) for Power, Coal, New & Renewable Energy and Mines has launched the Saral Eindhyan Vitaran Application (SEVA), developed in-house by Coal India Limited (CIL) for power sector consumers.

- SEVA is aimed at increasing the Consumer Connect as well as the Transparency and Accountability in Coal dispatch.
- SEVA Dashboard provides summary of quantity of coal dispatched along with grades for the given day, month, and the latest yearly updates as well.
- It also provides information on rake movement including latest status of indents of rake, allotment and loading. This would help consumers making advance logistics planning.
- Further, the app has a dedicated backend team to monitor the status of specific grievances from consumers and take action on the feedback received on the app.

“OZONE 2 CLIMATE”

IN NEWS: Ministry of Environment, Forest and Climate Change, along with the UN Environment Ozone Action’s Compliance Assistance Programme, organized an “Ozone2Climate” Technology Roadshow, post Kigali Amendment to the Montreal Protocol, on the sidelines of the South Asia National Ozone Officers Annual Network Meeting.

The Technology Roadshow showcased current refrigeration and air conditioning equipment designed to be more energy efficient, hence with a double benefit of saving money for consumers, and with a much lower impact on the environment.

Along with the Technology Roadshow, UN Environment is also organizing the annual network meeting for South Asia Ozone Officers from May 23 to 26, 2017.

- The meeting focused on current policy and technology updates on ozone and climate friendly alternatives to HCFCs and HFCs specifically post-Kigali amendment, linking the HCFC phase out to future HFC phase down, the implications of Kigali amendment for the network countries and challenges and opportunities from a policy and technology perspective.

NAURU JOINED ISA

The world's smallest republic, the tiny island nation of Nauru — has become the sixth country to ratify the International Solar Alliance (ISA) Framework pact initiated by the Indian and French Governments at the climate change summit held at Paris in 2015.

Five more nations, from Africa, — Comoros, Cote d'Ivoire, Somalia, Ghana and Djibouti — have committed to sign the pact during the ongoing meeting of the African Development bank in India.

Nauru, which has a population of just 10,200-odd, is particularly vulnerable to the adverse effects of climate change. "Nauru has a hot and humid climate due to its proximity to the equator."

QUASARS

Astronomers have created the first map of the large-scale structure of the universe based entirely on the positions of quasars.

The bright glow of quasars is detected by a dedicated 2.5-metre telescope on Earth.

The telescope's observations gave the team the quasars' distances, which they used to create a three-dimensional map of where the quasars are.

QUASARS

- Quasars are the incredibly bright and distant points of light powered by super-massive black holes.
- Quasars, also called quasi-stellar radio sources, are the most energetic and distant members of a class of objects called active galactic nuclei (AGN).
- Their spectra contain very broad emission lines, unlike any known from stars, hence the name "quasi-stellar." Their luminosity can be 100 times greater than that of the Milky Way.
- They are the disks of material around supermassive black holes, which heat up and glow as material streams inward toward the event horizon.
- Quasars are so far away that their light left them when the universe was between three and seven billion years old, long before the Earth even existed.
- They emit visible light, ultraviolet rays, infrared waves, X-rays, and gamma-rays.

ACTION PLAN FOR CONSERVATION OF PAMPA

IN NEWS: A seven-point action plan for the conservation of pampa has been chalked out. The document, named Pampa Declaration, delineates a comprehensive plan to be implemented with the active involvement and support of the government and the public.

HIGHLIGHTS

- Bestow living entity status to river Pampa.
- Prepare a constitution of a River Management Board for the governance of the river.
- Documentation of livelihood along the river basin.
- Publication of periodic status report of flood plains and wetlands and formation of tributaries, micro watersheds, and ponds linked to the river every five years.
- Digitising biodiversity reports with the support of students from institutions and colleges affiliated to Mahatma Gandhi University.
- Implementation of green protocol for containing the pollution of the river and for the conservation of the Pampa ecosystem.
- The declaration calls upon the government to create an additional standing committee on environment at the local bodies to ensure participation of local government institutions in the governance of the river.

PAMPA/PAMBA RIVER

- Pamba River which is popularly called as Dakshina Bhagirathi and River Baris is the third longest river in Kerala. It has a length of 176 kms.
- This river spreads in Pathanamthitta district and the Kuttanad in Allapuzha district.
- The Pamba River originates in Pulachimalai of the Western Ghats.
- It then flows through regions such as Ranni, Ayroor, Pathanamthitta , Kuttanad etc and then finally ends up in to the Vembanad Lake.
- Kuttanad which is popularly called as the Rice Bowl of Kerala is famous for the rice cultivation, and the water for irrigational purposes is available from this river.
- The famous Sabarimala temple is located on the banks of this river. It has got significance in the Hindu religion as it is believed that Lord Ayyappan has appeared as a child on the river banks.
- Perumthenaruvi waterfall which is a famous picnic spot is located on the banks of the river.

NEGLECTED TROPICAL DISEASE

IN NEWS: Around the world, nearly 1.6 billion people are affected by a group of diseases so ignored that the term used to refer to them is called neglected tropical diseases (NTDs).

HIGHLIGHTS

- Neglected tropical diseases (NTDs) are a diverse group of communicable diseases that prevail in tropical and subtropical conditions in 149 countries and affect more than one billion people, costing developing economies billions of dollars every year.
- They mainly affect populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals and livestock.
- Amongst children, infection leads to malnutrition, cognitive impairment, stunted growth, and the inability to attend school.
- Adults suffer from social isolation and are unable to work, and anemia caused by NTDs increases the risk of maternal mortality.

COMBUSTIBLE ICE

IN NEWS: Japan and China successfully extracted the material from the sea floor off their coastlines.

Commercial development of the globe's huge reserves of a frozen fossil fuel known as "combustible ice" has moved closer to reality. The fuel was successfully mined by a drilling rig operating in the South China Sea.

- For Japan, methane hydrate offers the chance to reduce its heavy reliance of imported fuels if it can tap into reserves off its coastline.
- In China, it could serve as a cleaner substitute for coal-burning power plants and steel factories.

HIGHLIGHTS

- Combustible ice is a frozen mixture of water and concentrated natural gas.
- Technically known as methane hydrate, it can be lit on fire in its frozen state.
- It is believed to comprise one of the world's most abundant fossil fuels.
- Experts suggest large-scale production remains many years away. If extraction is not done properly, it could flood the atmosphere with climate-changing greenhouse gases
- Methane hydrate has been found beneath seafloors and buried inside Arctic permafrost and beneath Antarctic ice.
- It is present in abundance in the world
- This means methane hydrate reserves could meet global gas demands for 80 to 800 years at current consumption rates.
- If methane hydrate leaks during the extraction process, it can increase greenhouse gas emissions. The fuel also could displace renewable sources such as solar and wind power.

UTERINE TRANSPLANT

India's first uterine transplant performed was recently performed by Pune doctors. First successful transplant in the world was done in 2012 in Sweden.

In India, infertility prevalence is between 3.9%- 16.8% of the population of child bearing women. Among the reasons, uterine factor is the cause in 20% of cases. The uterine factor can be due to causes like congenital absence of uterus, uterine malformations, genital tuberculosis and surgical removal of uterus for cancers.

- Removing the uterus from a live donor exposes the person to surgical risk.
- Involves too many surgical steps for the recipient.
- The transplant is not a life saving procedure.
- It also discourages other methods like adoption and surrogacy.

RAIL DEVELOPMENT AUTHORITY

IN NEWS: Recently union cabinet approved the setting up of a regulator for the railways—the Rail Development Authority (RDA). The demand for RDA due since long time, it will help the Indian Railways take decisions on pricing of services, consumer interests, generating revenue and competition, among others.

Rail Development Authority

The newly approved regulator will perform four primary functions— tariff determination, ensuring fair play and level playing field for stakeholder investment, setting efficiency and performance standards and dissemination of information.

The RDA will be headed by a chairman and comprising three members and it will have a five-year term and be empowered to engage experts. It will be independent body with separate budget.

HIGHLIGHTS

Currently reforms in Indian Railways like increase in train tariffs and reduction in the number of railway employees have been withheld due to political reasons. Hence the need for an independent rail regulator has been emphasized since 2001 by various committees.

For orderly development of infrastructure enabling competition and protection of customer interest, it is important to have a regulation mechanism independent of the service provider.

The newly approved regulatory authority will change the landscape of Indian Railways as it will help the national carrier take decisions on pricing of services commensurate with costs, protect consumer interests etc.

Similarly it will suggest measures for enhancement of non-fare revenue, promote competition and encourage market development, create positive environment for investment, promote efficient resource allocation and benchmarking of service standards, and suggest measures for absorption of new technologies and human resource development.

RDA will be an independent body with a separate budget. The independence is ensured through provision of a separate budget, and the appointment and removal process, hence it will change the Indian Railways landscape decisively without any political interference.

VICTORIA MEMORIAL HALL

IN NEWS: Victoria Memorial Hall (VMH) is introducing facilities of exploring its galleries at the click of a button, courtesy the Google Arts and Culture project to commemorate the occasion of International Museum Day.

- The project offers viewers a 360-degree walk through traversing the galleries, in Google Street View mode.
- The galleries with The Art of Abanindranath Tagore, Gaganendranath Tagore: Painter and Personality, and The Magnificent Heritage of India as seen by the Daniells can be explored.

Abanindranath Tagore was the principal artist and creator of “Indian Society of Oriental Art”. He was also the first major exponent of Swadeshi values in Indian art, thereby founding the influential Bengal school of art, which led to the development of modern Indian painting.

He was also a noted writer, particularly for children. Popularly known as ‘Aban Thakur’, his books Rajkahini, Budo Angla, Nalak, and Khirer Putul are landmarks in Bengali language children’s literature.

His famous paintings include ‘Bharat Mata’, the ‘Passing of Shah Jahan’, the ‘Chandi Mangal’ collection and ‘Krishna Leela’.

IMPLEMENTATION OF MATERNITY BENEFIT PROGRAM

IN NEWS: The Union Cabinet gave ex-post facto approval to Pan-India implementation of Maternity Benefit Program which now has been extended to all districts of the country w.e.f. 01.01.2017.

The Prime Minister in his address to the nation on 31.12.2016 had announced Pan-India implementation of Maternity Benefit Program.

HIGHLIGHTS

- The Maternity Benefit Program will provide compensation for the wage loss in terms of cash incentives so that the women can take adequate rest before and after delivery and not be deprived of proper nutrition.

- All eligible Pregnant Women and Lactating Mothers (PW&LM), excluding those who are in regular employment with the Central Government or State Government or Public Sector Undertakings will receive benefit of Rs.5000/- in three installments for the birth of the first live child by Ministry of Women and Child Development.
- First installment will be given on early registration of pregnancy, second installment on at least one antenatal check-up (after 6 months of pregnancy) and third installment when child birth is registered and child has received first cycle of BCG, OPV, DPT and Hepatitis-B or its equivalent/substitute.
- The government aims to ensure that on an average a woman gets Rs. 6000 for adequate support and health care during pregnancy and at the time of delivery
- The conditional cash transfer scheme would be in DBT mode.

PRESSURIZED HEAVY WATER REACTORS

Union Cabinet has given its approval for construction of 10 units of India's indigenous Pressurized Heavy Water Reactors (PHWR). The total installed capacity of the Plants will be 7000 MW. The 10 PHWR project will result in a significant augmentation of nuclear power generation capacity.

- India has current installed nuclear power capacity of 6780 MW from 22 operational plants.
- Another 6700 MWs of nuclear power is expected to come on stream by 2021-22 through projects presently under construction.
- It would be one of the flagship "Make in India" projects in this sector.
- It is indigenously built.

NATIONAL TECHNICAL RESEARCH ORGANISATION

IN NEWS: National Technical Research Organisation (NTRO), the Central agency looking after technical surveillance, will now be bound by secrecy norms just like Intelligence Bureau (IB) and Research & Analyses Wing (RAW), with its staff restricted from speaking about the structure and functioning of the organisation.

- The inclusion of NTRO in the Schedule under the Intelligence Organisations (Restriction of Rights) Act, 1985 will insulate it from answering queries under the Right to Information Act.
- The agency can decline RTI queries on its structure, functioning, personnel and organisation affairs by invoking Section 6 of the Act.

WORLD GOLD COUNCIL

IN NEWS: The World Gold Council is working with the Indian government on plans to create a local physical spot-gold exchange that may start up as soon as next year.

The finance ministry has formed a gold committee.

The plans still face many hurdles including that the state-level rather than central government has responsibility for gold-related matters in India. Increased infrastructure such as gold vaults and reliable receipts for metal are also needed.

“CAGE CULTURE”

West Bengal government is all set to introduce a new method of deep-sea pisciculture commonly known as cage culture.

As the name suggests, the practice consists of culturing fish inside big floating cages in the middle of the sea.

The project is at present in the pilot stage. Two 4.5 metre-diameter cages made out of GI pipes and netlon mesh have been set up 2 km off the coast of Mandarmani at the northern end of the Bay of Bengal. The cages are covered with nets to prevent seabirds from feeding on the fish. They are tied down with buoys to provide stability. Each cage is going to last eight to ten years.

Hatchlings for the pilot project will be released in September, which will grow to the right size – 1 to 1.5 kg – within six months. Mostly, bhukti and pomfret will be reared in these cages as these fishes in high demand and are expensive as well. Such deep-sea culture in large numbers will bring down prices of these fishes and make them more affordable.

This will also help to bring down the pressure on the lakes and inland hatcheries. Scientists are also researching the viability of pearl culture in the cages.

GLOBAL EASE OF GETTING ELECTRICITY

Simultaneously during the last two years, India has also moved up to the 26th spot in the World Bank's electricity accessibility ranking in 2017 from 99th spot in 2014.

Overall energy shortage too has come down to 0.7% at present from 4.2% in 2014.

Total power capacity increased by nearly a third (31%) from 243GW in March 2014 to 320 GW in March 2017.

In spite of the government's plan to set up 175 GW green power capacity by 2022, conventional power generation capacity too has increased by 26% from 214 GW in March 2014 to 270 GW in March 2017.

RUTLAND ISLAND

IN NEWS: The country's long-range missile test facility at South Andamans' Rutland Island has finally secured the clearance of the National Board of Wildlife, which has been held up since 2012.

The island is very rich in marine life and was once home to the indigenous Andamanese group 'Jangil' or Rutland Jarawa.

- As of now, long-range missile tests are being carried out from the Odisha coast and are tracked by naval vessels.
- DRDO requires a land-based test area as well to accurately track its longrange missiles, with the island in the Andamans being ideally located due to its distance from mainland.

The state Chief Wildlife Warden has recommended the project with conditions such as preparation of a specific marine and terrestrial wildlife conservation plan and installation of essential deflectors and anti-radiation screens around satellite antennas to reduce the impact of radiation on biodiversity in the proposed area.

No forest material of fire wood is to be collected from forest area and no effluent or domestic sewage (liquid or solid waste) shall be disposed into the sea or nearby forest area.

VATSALYA MAATRI AMRIT KOSH

IN NEWS: The Secretary (Health and Family Welfare) has inaugurated the ‘Vatsalya – Maatri Amrit Kosh’, a National Human Milk Bank and Lactation Counselling Centre at Delhi.

It is opened in collaboration with the Norwegian government, Oslo University and NIPI Newborn Project, is a national human milk bank and lactation counseling centre that will collect, pasteurize, test and safely store milk that has been donated by lactating mothers and make it available for infants in need.

In addition, this facility will protect, promote and support breastfeeding of their own healthy mothers by providing lactation support to mothers through dedicated lactation counsellors.

This project will not only act as a dedicated centre to support breastfeeding and improve infant survival but also act as the teaching, training and demonstration site for other milk banks to be established under the Ministry Of Health and Family Welfare, Government of India.

INPUT TAX CREDIT

To avoid double taxation on items used as inputs to make other items, credit of taxes paid on the inputs can be taken by the maker of the next item while paying tax on the output.

If the tax paid on inputs is higher than the tax on the output, the excess can be claimed as a refund.

Input tax credit is also available to traders on goods bought for sale/resale, besides a few other cases such as goods bought for use in works contract.

Currently, input tax credit is available for taxes such as excise duty, VAT (Value Added Tax), CST (Central Sales Tax) and service tax.

AMEENPUR LAKE

Ameenpur Lake is an ancient man-made lake that dates back to the time of Ibrahim Qutb Shah, who ruled the kingdom of Golconda between 1550 and 1580.

It becomes the first Biodiversity Heritage Site in the country.

The lake is now divided into two parts called Pedda Ameenpur and Chinna Cheruvu.

With the biodiversity heritage tag given under the Biological Diversity Act 2002, the lake, which will now be managed by a locally constituted Biodiversity Management Committee, also becomes eligible for funding for upkeep of the lake as well as its protection.

GSLV MARK III

- GSLV Mk III is a three-stage heavy lift launch vehicle developed by ISRO. The vehicle has two solid strap-ons, a core liquid booster and a cryogenic upper stage.
- GSLV Mk III is designed to carry 4 ton class of satellites into Geosynchronous Transfer Orbit (GTO) of 36,000 km; or about 10 tons to Low Earth Orbit (LEO) of up to 800 km., which is about twice the capability of GSLV Mk II.
- The indigenous GSLV-Mark III will make a bid to breach a heavy-lift rocket club. The U.S., Russia, Europe, China and Japan are already there.

ORANG TIGER RESERVE

- Orang tiger reserve in Assam with the smallest core (78.28 sq. km) among 50 nationally protected areas, has presented wildlife scientists doing a census with a surprise: a high density of 28 big cats.
- Orang Tiger Reserve is the 49th in the country.
- Kamlang Tiger Reserve in Arunachal is the 50th and latest to be notified.
- Orang has the highest tiger density nationally.
- The density in Kaziranga National Park was 12.72 per 100 sq. km., followed by Jim Corbett National Park (11) in Uttarakhand and Bandipur National Park (10.28) in Karnataka.

NASA MISSIONS

NICER: NASA will launch the world's first mission devoted to studying rapidly spinning neutron stars.

- The agency plans to launch the two-in-one Neutron Star Interior Composition Explorer, or NICER, aboard SpaceX CRS-11, a cargo resupply mission to the International Space Station to be launched aboard a Falcon 9 rocket.
- Neutron stars are the remnants of massive stars that, after exhausting their nuclear fuel, exploded and collapsed into super-dense spheres about the size of New York City.

- Although neutron stars emit radiation across the spectrum, observing them in the energetic X-ray band offers the greatest insights into their structure and the high-energy phenomena that they host, including starquakes, thermonuclear explosions, and the most powerful magnetic fields known in the cosmos.

Sounding Rocket: NASA is set to launch a sounding rocket which will release blue-green and red artificial clouds.

- The Terrier-Improved Malemute sounding rocket will test a new deployment system that will support space studies.
- Sounding rockets take their name from the nautical term "to sound," which means to take measurements. The flight of a sounding rocket is short-lived, and has a parabolic trajectory.

SCO SUMMIT

IN NEWS: India and Pakistan's admission as full members to the SCO will be formalized at the SCO's summit (8–9 June 2017) in Kazakhstan.

It is a Eurasian political, economic, and military organisation (HQ: Beijing), which was founded in 2001 in Shanghai by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.

These countries, except for Uzbekistan, had been members of the Shanghai Five, founded in 1996.

It is an observer in the General Assembly, the European Union, ASEAN, the Commonwealth of Independent States and the Organisation of Islamic Cooperation.

The **Regional Anti-Terrorist Structure (RATS)**, headquartered in Tashkent, Uzbekistan, is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism.

The Head of RATS is elected to a three-year term. Each member state also sends a permanent representative to RATS.

3rd GRAVITATIONAL WAVE DETECTED

IN NEWS: The LIGO detectors in the U.S. have detected yet another merger of two black holes.

Named GW170104, this signal marks the third confirmed detection of gravitational waves coming from a binary black hole merger.

At LIGO, the detection has revealed not merely a black hole merger, but also the alignment of the spins of the black holes. This can shed light on the way the black holes might have formed.

LIGO: The Laser Interferometer Gravitational-Wave Observatory is a large-scale physics experiment and observatory with the mission to directly observe gravitational waves of cosmic origin.

These waves were first predicted by Einstein's general theory of relativity in 1916.

Their existence was indirectly confirmed when observations of the binary pulsar PSR 1913+16 in 1974. The Nobel Prize in Physics 1993 was awarded to Hulse and Taylor for this discovery.

Two large observatories were built in the United States with the aim of detecting gravitational waves by laser interferometry.

LIGO-India, or INDIGO, is a planned collaborative project between the LIGO Laboratory and the Indian Initiative in Gravitational-wave Observations (IndIGO) to create a world-class gravitational-wave detector in India. A site in the Hingoli district (Maharashtra) has been selected.

INAM-Pro +

The Minister of Road Transport & Highways and Shipping launched INAM-Pro +.

It is an upgraded version of INAM-Pro, the web portal designed by National Highways and Infrastructure Development Corporation Ltd (NHIDCL) two years back as a common platform to bring cement buyers and sellers together.

This reduced the time and effort in preparation of proposals and bid submissions, and helped increase efficiency in procurement of construction materials as one could place orders, obtain price quotes and track them in swift manner on this portal.

SOLAR ROOFTOP INVESTMENT PROGRAM

IN NEWS: The Asian Development Bank (ADB) and the Punjab National Bank (PNB) signed a \$100 million loan — that will finance large solar rooftop systems on industrial and commercial buildings throughout India.

This is the first tranche loan of the \$500 million multi tranche finance facility Solar Rooftop Investment Program (SRIP) approved by ADB in 2016.

The entire Solar Rooftop Investment Program will cost \$1 billion, inclusive of ADB \$500 million funding, and the projects financed under the program will install solar rooftop system of around 1 GW capacity.

This will contribute to the climate change goal of reducing greenhouse gas emissions by about 11 million tons of carbon dioxide equivalent over the typical 25-year lifetime of rooftop solar systems.

India's solar rooftop market is expanding fast with an estimated total capacity potential of 124GW.

DAY-NULM

National Urban Livelihood Mission is now renamed as ‘Deen Dayal Antyodaya Yojana-NULM’ and in Hindi as ‘Deen Dayal Antyodaya Yojana-Rashtriya Shahri Aajeevika Mission’.

This mission seeks to enhance the employment opportunities and incomes of the urban poor through skill development and training, setting up of individual and group micro-enterprises, formation of Self-Help Groups, building shelters for homeless, supporting street vendors in creating infrastructure, innovative support to rag pickers, differently abled etc.

NULM introduced in 2013 is being presently implemented in only 791 cities across the country covering all district headquarters and cities and towns with a population of above one lakh each.

Now all the States and Union Territories have been empowered to implement DAY-NULM in all the remaining 3,250 statutory urban local bodies even if they have a population of less than one lakh each.

Under skill training, it was decided to enhance financial provisions for differently-abled.

ATMOSPHERIC RIVERS

An atmospheric river (AR) is a flowing column of condensed water vapor in the atmosphere responsible for producing significant levels of rain and snow, especially in the Western United States.

- When ARs move inland and sweep over the mountains, the water vapor rises and cools to create heavy precipitation.
- Though many ARs are weak systems that simply provide beneficial rain or snow, some of the larger, more powerful ARs can create extreme rainfall and floods capable of disrupting travel, including mudslides and causing catastrophic damage to life and property.
- A strong AR transports an amount of water vapor roughly equivalent to 7.5-15 times the average flow of water at the mouth of the Mississippi River.
- ARs are primary feature in the entire global water cycle and are tied closely to both water supply and flood risks, particularly in the Western U. S.
- On average about 30-50% of the annual precipitation on the West coast occurs in just a few AR events and contributes to the water supply – and flooding risks.
- ARs move with the weather and are present somewhere on the earth at any given time.
- ARs are approximately 250-375 miles wide on average.