CURRENT AFFAIRS
1st APRIL TO 15th APRIL 2017

SINGAPORE OPEN FINAL

IN NEWS: B Sai Praneeth wins the Singapore Super Series title.

B Sai Praneeth defeated world No 29 Kidambi Srikanth in an all-Indian men's singles final to lift the Singapore Open Superseries badminton title.

This was the first time that two Indians featured in men's singles Super series final and India became only the **fourth country** to have both players in a Super series final. The other three are China, Denmark and Indonesia.

Srikanth is the first Indian to won the 2014 China Super Series Premier. And he also won 2015 India Super Series and also reached the quarterfinals of Rio Olympics.

KEMPE GOWDA FESTIVAL

IN NEWS: President Pranab Mukherjee inaugurated the Kempegowda Festival and said Kempe Gowda was a "just and humane" ruler of the Vijayanagara empire.

The festival is organised by the Nadaprabhu Kempegowda Foundation.

KEMPE GOWDA

- Hiriya Kempe Gowda, well known as Kempe Gowda I, was a feudatory ruler under the Vijayanagara Empire.

- The city of Bengaluru itself was established by Kempe Gowda in 1537, as the capital of his erstwhile kingdom. He is considered to be the founder of Bengaluru.

- One of his social reforms was to prohibit the custom of amputating the last two fingers of the left hand of the married women during "Bandi Devaru", an important custom of Morasu Vokkaligas. He was a patron of art and learning.

- Emperor Sadashivaraya of Vijayanagar Empire under the supervision of Aliya Ramaraya, imprisoned Kempe Gowda for minting his own coins without the Emperor's prior approval and later released after being imprisoned for five years.

- He died in 1569, having ruled for about 56 years.

- The lineage of Kempe Gowda lasted for a century in Magadi, where they built many temples, forts and tanks. Nelapattana, a subterranean town was built on the foot of the Savandurga, to protect themselves from Muslim invasions

COMPUTER AND INTERNET PIONEER ROBERT TAYLOR DIED

IN NEWS: Robert Taylor, a computer scientist who was instrumental in the creation of the internet and modern computer, has died. He was 85.

HIGHLIGHTS

- In 1970, Taylor designed and created the Alto. The **Alto** was the first computer designed to support an operating system based on a graphical user interface, a concept to be copied by the operating systems that would follow.

- Taylor's team also developed the **networking technology Ethernet** and a what-you-see-is-what-you-get word processing program called **Bravo** that would become the basis for Microsoft Word.

- Taylor also played a key role in the creation of the computer mouse which became a key element of both Macintosh and Microsoft Windows-based computers.

- In the 1980s, Taylor formed and ran the Digital Equipment Systems Research Laboratory in Palo Alto, which, among other technologies, developed the **AltaVista** search engine in 1995 -- two years before Google was founded.

LITHIUM ION BATTERIES FOR VEHICLES

IN NEWS: The government has asked Indian Space Research Organisation (ISRO) to allow interested players including from private sector to obtain the technology for mass production of Lithium-Ion batteries for electric vehicles.

The Vikram Sarabhai Space Centre under ISRO has developed indigenous technology to manufacture such high-power batteries for automobiles and their feasibility tests in vehicles have been successful.

HIGHLIGHTS

- Batteries are the key components of any electric vehicle. At present, all Lithium-ion batteries are imported and it's very expensive.
- Such batteries have high-power, but these weigh less and their volume is much less as well in comparison to conventional batteries.

ROBOTIC PLATFORM: CSIR-NIO

IN NEWS: Researchers at the Dona Paula-based Marine Instrumentation Group of CSIR-National Institute of Oceanography (NIO) have developed a robotic platform, **Seabed Resident Event Profiler (SREP)** that can be stationed at any depth from 0-200 metres to track the oceanic processes.

HIGHLIGHTS

- SREP is designed to track oceanic processes such as upwelling that occurs regularly during June to September along the west coast of India and are important for the ecosystem sustenance and fishery.
- Several sensors that can detect the conditions associated with upwelling such as low temperature, low oxygen, high nutrients, and changes in density patterns are placed on this platform.

- Robot recorded the water column information regularly as programmed at every 10 to 25 cm during every profile four times a day, stores the data and communicates the same to users at the institute.

- The robot in its final configuration will be able to sit on the seabed for 100 days continuously.

REVISED PROMPT CORRECTIVE ACTION FRAMEWORK

IN NEWS: In order to resolve bad loans problem, Reserve Bank today issued a new set of enabling provisions under the label of revised prompt corrective action (PCA) framework.

The new set of provisions will be effective from April 1 based on the financials of each bank as of March 2017, and override the existing PCA framework.

HIGHLIGHTS

- The new framework will be reviewed after three years.

- A bank will be placed under PCA framework based on the audited annual financial results and RBI's supervisory assessment. However, RBI may impose PCA on any bank during the course of a year, including migration from one threshold to another, in case the circumstances so warrant.

- If a bank crosses the third level of risk threshold (wherein a bank's common equity tier I capital falls below the threshold of 3.625 per cent by 3.125 per cent or more) the said bank will be either amalgamated or merged or taken over by another entity.

- Breach of 'risk threshold 3' of CET1 by a bank would identify it as a likely candidate for resolution through tools like amalgamation, reconstruction, winding up etc.

- Extending the new provisions to foreign banks, the revised PCA framework is applicable to all banks including small banks and foreign banks.

- The new framework also places capital, asset quality and profitability as the key areas for monitoring and the over-riding indicators tracking capital, asset quality and profitability will be CRAR/common equity tier I ratio, met NPA ratio and return on assets, respectively.

SAGARMATHA FRIENDSHIP 2017

IN NEWS: Nepal and China will hold the first-ever joint military exercise with a special focus on combating terror and disaster management.

The military exercise named **'Sagarmatha Friendship-2017'** will also focus on common interests like disaster management.

Sagarmatha is the Nepali name of Mount Everest, the world's highest peak that is bordering between Nepal and China.

This is the first time Nepal is holding such an exercise with China.

BHIM – AADHAR PLATFORM LAUNCHED

IN NEWS: Prime Minister launched the BHIM-Aadhaar platform—a merchant interface linking the unique identification number to the Bharat Interface for Money mobile application—at Nagpur on the 126th birth anniversary of Dr B.R. Ambedkar.

HIGHLIGHTS

- The new interface will enable customers to make payments using a merchant's biometric-enabled device.
- Any citizen without access to smartphones, Internet, debit or credit cards will be able to transact digitally through the BHIM-Aadhaar platform.
- To avail of this service, a customer has to first link his bank account to his Aadhaar number. To make a payment, all he has to do is select the bank's name and enter the Aadhaar number. His fingerprint will serve as the password to authenticate the transaction.
- To start with, no transaction fee will be levied on either the merchants or customers to encourage adoption of the new digital payment service, especially in small towns and rural India.
- Prime Minister announced two new incentive schemes for the BHIM app—cashback (for merchants) and referral bonus (for customers).
- An updated version of BHIM (version 1.3) is available on Android and ioS. Several new features have been added to its interface such as new languages, the option to block unwanted collection requests and pay by scanning QR (quick response) codes.
- The new upgrade is aligned to facilitate government's initiative of launching customer referral bonus and merchant incentive schemes.
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"MOTHER OF ALL BOMBS"

IN NEWS: The US just dropped a bomb in Afghanistan that had never before been used in war. The **GBU-43/B Massive Ordnance Air Blast Bomb (MOAB),** sometimes grimly called the "Mother of All Bombs," isn't the heaviest non-nuclear bomb in the US arsenal (that's the 30,000-pound Massive Ordinance Penetrator), but with a length of 30 feet and an estimated cost of $15.7 million , it's a very powerful military equipment.

MOAB

- The main attribute of the MOAB is that it causes overpressure."Overpressure" is a term for the sharp spike in air pressure that a bomb causes. That change in pressure moves away from the bomb in a wave in all directions.

- The 9,797-kg GBU-43 bomb, was dropped from an MC-130 aircraft

- Bomb is dropped from a high altitude and satellite guidance ensures accuracy

- The device, also known as the mother of all bombs, is a GPS-guided munition that had never been used in combat before

- The bomb's destructive power which is equivalent to 11 tons of TNT is relatively small compared to the atomic bomb that was dropped on Japan at the end of World War. The atomic bomb had a destructive power which is equivalent to 15,000 to 20,000 tons of TNT.

CHEMICAL WEAPONS

Chemical weapons are specialised munitions that deliver chemicals that inflict death or injury on humans through chemical actions. Because they are relatively cheap and easy to produce, chemical weapons are referred to as the "poor man's bomb".

Even though modern munitions, through precision of application and specialised use, can cause catastrophic damage, chemical weapons trigger unmatched horror and leave deep psychological scars.

Among the most commonly used chemical weapons **are mustard gas, phosgene, chlorine, and the nerve agents Sarin and VX.**

SARIN

- Sarin, or GB (G-series, 'B'), is a colorless, odorless liquid, used as a chemical weapon due to its extreme potency as a nerve agent.
- It is generally considered a weapon of mass destruction.

- Production and stockpiling of sarin was outlawed as of April 1997 by the Chemical Weapons Convention of 1993, and it is classified as a Schedule 1 substance.
- Sarin attacks the nervous system by interfering with the degradation of the neurotransmitter. Death will usually occur as a result of asphyxia due to the inability to control the muscles involved in breathing function.
- Initial symptoms following exposure to sarin are a runny nose, tightness in the chest and constriction of the pupils. Soon after, the person will have difficulty breathing and they will experience nausea and drooling. As they continue to lose control of bodily functions, they may vomit, defecate and urinate.
- They are the leading cause of death and SLUDGE – salivation, lacrimation, urination, defecation, gastrointestinal distress, and emesis.
- Sarin in its purest form is estimated to be 26 times more deadly than cyanide

Mustard gas: Possibly the world's most commonly used chemical weapon, it was widely used in World War I, and gets its name from its distinctive odour of rotten mustard. It is slow acting, and only about 5% to 10% of people exposed to it usually die.

VX: This is the nerve agent that was reportedly used in the assassination of Kim Jong-nam, half-brother of North Korean leader Kim Jong-un this February. In its original form, it is odourless, and appears as a brownish oily substance. It is very persistent — once in the atmosphere, it is slow to evaporate, and thus tends to cause prolonged exposure.

CONVENTIONS

The core elements of the Geneva Convention, which went on to have 35 signatories and 140 parties, are now generally considered part of customary international law. The Convention was, however, silent on the production, storage and transfer of these chemicals.

Later treaties, most importantly the **Chemical Weapons Convention (CWC)** of 1993, plugged these holes.

- The CWC outlawed the production as well as stockpiling of chemical weapons.
- 192 countries have so far agreed to be bound by the CWC — 4 UN states are not party: Israel, Egypt, North Korea and South Sudan.
- The CWC's main objective is to get signatories to destroy their stockpiles of chemical weapons.
- As of December 2016, an estimated 93% of the world's declared stockpiles had been destroyed.
- The CWC is administered by the Organisation for the Prohibition of Chemical Weapons (OPCW), which won the Nobel Peace Prize in 2013 for its efforts to curb use of chemical weapons internationally.

India was one of the original signatories of the CWC in 1993, stating that it did not possess chemical weapons or the technology to manufacture it. However, in June 1997, it declared a stockpile of 1,044 tonnes of sulphur mustard, and promised to start the process of destroying it as per CWC guidelines. In

March 2009, India declared that it had completely destroyed its stockpile of chemical weapons, becoming the third country in the world (after South Korea and Albania) to do so.

PRADHAN MANTRI MUDRA YOJANA

IN NEWS: Loans extended under the Pradhan Mantri Mudra Yojana (PMMY) during 2016-17 have crossed the target of Rs. 1,80,000 crore for 2016-17.

Data compiled so far indicates that the number of borrowers this year were over 4 crore, of which over 70% were women borrowers. About 20% of the borrowers were from the Scheduled Caste Category, 5% from the Scheduled Tribe Category, while Other Backward Classes accounted for almost 35% of the borrowers.

Pradhan Mantri Mudra Yojana

- Micro Units Development and Refinance Agency (MUDRA) Bank is a new institution being set up by Government of India for development and refinancing activities relating to micro units.
- It was announced by the Finance Minister while presenting the Union Budget for FY 2016.
- The purpose of MUDRA is to provide funding to the non corporate small business sector.
- Under the scheme, Pradhaan Mantri Mudra Yojana three categories of interventions has been named which includes
  Shishu: Loan up to 50,000.
  Kishore: Loan ranging from 50,000 to 5 lakh.
  Tarun: Loan above 5 lakh to 10 lakh.

AADHAR SEEDING

IN NEWS: UIDAI has created a seeding ecosystem, where different partners can leverage various tools offered by UIDAI to link Aadhaar in their respective service delivery databases.

Aadhaar seeding is a process by which UIDs of residents are accurately included in the service delivery database of service providers for enabling Aadhaar based authentication during service delivery.

UIDAI has undertaken multiple activities to ensure Aadhaar seeding in facilitated in various scheme databases. The Aadhaar seeding framework includes:

- A Standard Protocol Covering the Approach & Process for Seeding Aadhaar in Service Delivery Databases is available on UIDAI website.

- UIDAI has launched various services like DBT Seeding Data Viewer (DSDV), authentication process to verify seeding, e-Aadhaar download, EID-UID search, demographic authentication, advanced search, etc through resident portal and its ecosystem partners to facilitate seeding process.

- Empaneled 48 seeding agencies for undertaking seeding on behalf of central and state departments.

BIMSTEC GRID INTERCONNECTION

IN NEWS: Ministry of Power will sign a Memorandum of Understanding (MoU) for the establishment of the BIMSTEC grid interconnection.

MoU will be signed by member states of BIMSTEC at the upcoming 3rd BIMSTEC Energy Ministers' Meeting to be held in Kathmandu, Nepal.

The Plan of Action for Energy Cooperation in BIMSTEC was formulated in the first BIMSTEC Energy Ministers' Conference held in New Delhi on October 4, 2005.

This MoU will provide a broad framework for the parties to cooperate towards the implementation of grid interconnections for the trade in electricity with a view to promoting rational and optimal power transmission in the BIMSTEC region.

HIGHLIGHTS

- Optimization of using the energy resources in the region for mutual benefits on non-discriminatory basis subject to laws, rules and regulations of the respective Parties.
- Promotion of efficient, economic, and secure operation of power system needed through the development of regional electricity networks.
- Necessity of optimization of capital investment for generation capacity addition across the region.
- Power exchange through cross border interconnections.

OPERATION MEGHADOOT

IN NEWS: India launched Operation Meghdoot in Siachen on April 13, 1984.

Siachen, a 76.4 kilometre-long glacier in the Karakoram range, covers around 10,000 square kilometres of uninhabited terrain and sits astride two disputed boundaries - with Pakistan and China.

BACKGROUND

- Operation Meghdoot the code-name for the Indian Armed Forces operation to capture the Siachen Glacier in the Jammu and Kashmir State of India, precipitating the Siachen Conflict.
- Launched on 13 April 1984, this military operation was unique as the first assault launched in the world's highest battlefield.
- The military action resulted in Indian troops gaining control of the entire Siachen Glacier.

GOVERNMENT E - MARKETPLACE

IN NEWS: The Union Cabinet decided to set up a special purpose vehicle to be called **'Government e-Marketplace (GeM SPV)'** as the **National Public Procurement Portion** registered under the Companies Act, for providing services required by central and state government organisations.

The GeM SPV shall provide an end to end online marketplace for central and state government ministries/departments, central and state PSUs, autonomous bodies and local bodies for procurement of common use goods and services in a transparent and efficient manner.

ADVANTAGES

- Direct access to all Government departments.
- One stop shop for marketing with minimal efforts.
- One stop shop for bids / reverse auction on products / services.
- New Product Suggestion facility available to Sellers.
- Dynamic pricing: Price can be changed based on market conditions.
- Seller friendly dashboard for selling and monitoring of supplies and payments.
- Consistent and uniform purchase procedures.

HIGHER MSP FOR RAW JUTE

IN NEWS: The government hiked the minimum support price (MSP) for raw jute by Rs300 per quintal to Rs3,500 to boost farmers' income.

- Jute is mainly used as raw material in the packaging industry.
- Jute farmers are mainly concentrated in West Bengal, Bihar and Assam, which account for over 95% of the sowing area as well as jute production in the country.
- The new varieties of jute are being promoted by providing support for seeds production under the **National Food Security Mission (NFSM)—Commercial Crops**.

NATIONAL FOOD SECURITY MISSION – COMMERCIAL CROPS

The Government of India has approved Crop Development Programme on **Cotton, Jute and Sugarcane** for enhancing the production and productivity under National Food Security Mission- Commercial Crops (NFSM-CC) in 2014-15.

- Under this Scheme thrust has been given on transfer of technology through frontline demonstrations and training in order to extend benefits to the farmers.
- From, 2015-16, in view of increased devolution to the States on account of implementation of recommendations of 14th Finance Commission, NFSM is being implemented on sharing basis between Government of India and States on **60:40** basis for general category states.
- 90:10 basis for North East & hilly states.
- However, the Central Agencies are funded 100% by GOI.

- Under the NFSM-CC, an allocation of Rs.4366.91 lakh has been made for 2016-17.

SAMPADA SCHEME

IN NEWS: The government will soon launch an umbrella programme **'SAMPADA' (**'Scheme for Agro-Marine Produce Processing and Development of Agro-Processing Clusters) **for food processing** sector with Rs. 6,000 crore outlay to integrate current and new schemes aimed at reducing food wastage and doubling farmers' income.

- It will include ongoing schemes like mega food parks and cold chain projects.
- To create infrastructure for improving the entire food supply chain, three schemes— 'Creation/ Expansion of Food Processing and Preservation Capacities', 'New Agro-Processing Clusters' and 'Backward and Forward Linkages' will be launched for the same purpose.
- The Centre has so far sanctioned 42 mega food parks and 234 cold chain projects with 139 lakh tonnes of preserving and processing capacity of agro-produce worth Rs. 35,000 crore.
- Under the new scheme, govt. will provide up to Rs. 10 crore of subsidy grant for creating infrastructure at each of these clusters.

G-20 DIGITAL MINISTERIAL MEET

IN NEWS: The G20 Digital Ministerial Meeting on Digital Economy was held in Dusseldorf, Germany. It concluded with adaptation of declaration on 'Shaping Digitalisation for an Interconnected World'

HIGHLIGHTS

- It talks about the need for greater availability of affordable broadband connectivity, broader adoption of digital technologies and services improved digital skills and literacy, greater digital entrepreneurship for the digital economy to achieve the Sustainable Development Goals.

- It includes three annex papers on 'Digital skills in vocational education and training', 'A Roadmap for Digitalisation: Policies for a Digital Future' and 'G20 Priorities on Digital Trade'.

- It calls for collaboration between the countries and all stakeholders, including academia and private sector and sharing of best practices forms.

- It calls for greater support for the Micro, Small and Medium Enterprises (MSMEs) which might be constrained by their scale in adoption of digital technologies.

RURAL FEEDER MONITORING SCHEME

IN NEWS: Government has launched 'Rural Feeder Monitoring Scheme' to monitor the quantity and quality parameters of power supply in rural areas of the country.

- The entire data shall be hosted on National Power Portal (NPP) on real time basis and may be accessed by various stake holders through web services.
- The Minister informed that the Government has set December 2017 as the deadline to achieve 100% rural feeder monitoring by installing additional meters and modems on all feeders across the country, in order to facilitate real time communication of faults appearing in the power supply.
- Further, these meters would be geo-tagged to pin point the cause and location of the fault and address it at the earliest.

URJA MITRA APP

Urja Mitra is an initiative of Ministry of Power, Government of India which provides Outage Management and Notification Platform for dissipating the outage information to power distribution consumers across India through SMS/email/push notifications.

It also provides Pan-India integrated Mobile Application for Android and iOS platforms to enable citizen to access outage information for Distribution Companies. Power Consumers can also inform about power outage in their area through mobile app.

'NAKSHE' PORTAL

IN NEWS: A new web portal "nakshe" was launched by the Union Ministry for Science & Technology and Earth Science on the occasion of 250th anniversary of Survey of India (SoI).

Topographic maps or Open Series Maps (OSM) containing natural and man-made geographical features including terrain or topography are prepared by the SoI since its inception in 1767 and is in conformity with the National Map Policy-2005.

These OSM maps have been made available for free download from "nakshe" web portal in pdf format on 1:50,000 scale through Aaadhar enabled user authentication process, in line with Digital India programme of the Government of India.

BACKGROUND

- Origin of the Survey of India is traced back to Year 1767.
- It is the oldest scientific department in India and one of the oldest survey establishments in the world.
- Foundation for the scientific survey and mapping of the country was laid with The Great Trignometric Survey (GTS) in 19th century on this day i.e. 10th April, 1802, by noted surveyors Col. Lambton and Sir George Everest.

UN MESSENGER OF PEACE

IN NEWS: Nobel laureate Malala Yousafzai has been appointed a UN Messenger of Peace to promote girls' education, more than four years after a Taliban gunman shot her in the head.

- At 19, Yousafzai is the youngest Messenger of Peace, the highest honour given by the UN for an initial period of two years.
- She was also the youngest person to win the Nobel peace prize in 2014 when she was 17.
- The Pakistani education activist came to prominence when she was shot in the head in 2012 as she was leaving school in Pakistan's Swat valley, northwest of the country's capital, Islamabad.

Other current Messengers of Peace include actors Leonardo di Caprio (climate change), Charlize Theron (prevention of HIV and elimination of violence against women), and Michael Douglas (disarmament).

UN MESSENGER OF PEACE

- United Nations Messenger of Peace is a title bestowed by the United Nations to distinguished individuals, carefully selected from the fields of art, music, literature and sports, who have agreed to help focus worldwide attention on the work of the United Nations.

- The Messengers of Peace scheme was instigated in 1997 as a central addition to the system of UN goodwill ambassadors and honorary ambassadors, which has been run by the different UN agencies since 1954, when UNICEF appointed Danny Kaye as its first goodwill ambassador.

- Whilst the goodwill and honorary ambassadors mainly promote the work of the UN agency they are ambassador for, the messengers of peace are intended to promote the work of the United Nations in general and are appointed directly by the Secretary-General of the United Nations.

PULITZER PRIZE 2017

IN NEWS: Literary novel The Underground Railroad by **Colson Whitehead** depicts the journey of a young woman escaping from slavery via a fantastical train system, has won the Pulitzer prize for fiction.

PULITZER PRIZE

The Pulitzer Prize is an award for achievements in newspaper, magazine and online journalism, literature, and musical composition in the United States.

It was established in 1917.

Prizes are awarded yearly in twenty-one categories.

In twenty of the categories, each winner receives a certificate and a US$15,000 cash award (raised from $10,000 in 2017). The winner in the public service category of the journalism competition is awarded a gold medal.

FIRST UK – CHINA RAIL FREIGHT

IN NEWS: The first rail freight service from the UK to China departed on a 7,500-mile journey from Essex.

Thirty containers will carry British goods including whisky, soft drinks, vitamins and pharmaceuticals.

- After going through the Channel Tunnel the train will pass through seven - France, Belgium, Germany, Poland, Belarus, Russia, Kazakhstan – countries.
- The service is part of China's One Belt, One Road programme of reviving the ancient Silk Road trading routes with the West dating back more than 2,000 years.

INDIA – MONGOLIAN MILITARY EXERCISE

IN NEWS: The twelfth edition Indo-Mongolian Joint Military Exercise **Nomadic Elephant 2017** held at Vairengte in Mizoram.

Vairengte houses Indian Army's elite Counter-Insurgency and Jungle Warfare School.

HIGHLIGHTS

- The first joint Nomadic Elephant was held in 2004. Thereafter its held annually.
- It seeks to promote military associations between India and Mongolia.
- The two week exercise aimed at training the troops in Counter Insurgency & Counter Terrorism Operations (CICT Ops) under the United Nations mandate.
- It encompasses important aspects like convoy protection, room intervention drills, ambush/counter-ambush drills while jointly conducting counter-terrorist operations under the UN mandate.

The Recent Joint Exercises of The Indian Armed Forces are

- The **Indo-Nepal** joint military exercise **Surya Kiran XI** concluded at Pithorgarh in Uttarakhand.
- The **Indo-Oman** joint military exercise **Al Nagah-II** 2017 concluded at Bakloh in Himachal Pradesh.
- **Indo-Maldives** joint military exercise **EKUVERIN** concluded at Kadhdhoo in Maldives.

PROTEIN DISCOVERED TO MAKE VACCIANATIONS MORE EFFCETIVE

IN NEWS: Researchers have discovered a protein they believe would help make vaccinations more effective and provide protection from other diseases such as cancer.

Researchers from BUSM (BOSTON UNIVERSITY SCHOOL OF MEDICINE) purified a protein found on the exterior of bacteria (neisseria meningidis) and used it as an accessory to provide a better vaccination response.

Typically, vaccines can either increase the amount of antibody production or they can stimulate cells (called cytotoxic T cells) to directly kill the offending agent. In this case, the protein, called **PorB, is unique in that it can do both.**

This study has wide implications as it could not only be used to help the body identify and fight off bacterial infections, but it could also potentially help the body use its own machinery to fight off other diseases like cancer, HIV, and influenza.

VENUS LIKE PLANET DISCOVERED

IN NEWS: Astronomers, using NASA's Kepler space telescope, have discovered a Venus-like planet orbiting a dim star that is one-fifth the diameter of our Sun and is located 219 light-years away from Earth.

- The newly discovered planet is slightly larger than Earth, and it tightly embraces its low-temperature star called Kepler-1649, encircling it every nine days.

- The tight orbit causes the flux of sunlight reaching the planet to be 2.3 times as great as the solar flux on Earth. For comparison, the solar flux on Venus is 1.9 times the terrestrial value.

- The discovery will provide insight into the nature of planets around M dwarf stars, by far the most common type in the universe.

- While such stars are redder and dimmer than the Sun, recent exoplanet discoveries have revealed instances in which Earth-sized worlds circle an M dwarf in orbits that would place them in their star's habitable zone.

- The study of planets similar to the Venus analogue Kepler 1649b is "becoming increasingly important in order to understand the habitable zone boundaries of M dwarfs.

SHEIKH HASINA VISIT TO INDIA

IN NEWS: India and Bangladesh inked nearly two dozen pacts comprising defence and civil nuclear cooperation after "productive" talks between their Prime Ministers

HIGHLIGHTS

- India has extended a credit line of USD 4.5 billion for implementation of projects in Bangladesh.
- The Prime Minister also announced $500 million credit line towards India's eastern nation military budget.
- The two countries will expand cooperation in nuclear energy, space and atomic energy sectors along with cyber security, electronics and information technology.
- There was an agreement for the shipping sector and a protocol for passenger and cruise service. New passenger train service on Khulna-Kolkata route.
- Three defence sector pacts were signed in the form of an umbrella framework agreement on various aspects of defence cooperation.
- India will finance a diesel pipeline from Numaligarh to Parbatipur.
- Indian companies will also ink a long-term agreement with Bangladesh for supplying high-speed diesel.
- A rail link between Radhikapur and Birol for running goods trains.
- India has also extended funds to rebuild old railway lines, construct bridges, power plants, ports and roads in Bangladesh.
- Plans to revive inland waterway channels have the potential to increase connectivity with Nepal and Bhutan.

TEEASTA RIVER WATRE DISPUTE

- Teesta river has its origin in Sikkim and it flows through the northern part of West Bengal before entering Bangladesh and joining the Brahmaputra river.
- Its flow is significant for Bangladesh from December to March when the water flow often temporarily comes down to less than 1,000 cusec from 5,000 cusec.

India has put the river Teesta on the bilateral discussion table but the federal political issues have prevented the Centre from resolving the issue of water-sharing overruling Bengal's position. Releasing water to Bangladesh can affect irrigation systems in five districts of the North Bengal which are Coochbehar, Jalpaiguri, South and North Dinajpur, and Darjeeling and they constitute some of the poorest blocks in the state.

India has been in line with bilateral frameworks with Bangladesh in the past. India and Bangladesh have the advantage of an existing Joint Rivers Commission which was set up in 1972 after Bangladesh won independence for water management. It was this commission that negotiated the Ganges Water Treaty as significant as the Indus Waters Treaty with Pakistan, because it was an entirely bilateral effort.

GLOBAL TRAVEL AND TOURISM RANKING: WEF

IN NEWS: India has jumped 12 places to 40th rank globally in travel and tourism competitiveness list by **World Economic Forum (WEF).**

India is one of the countries that improved the most as it gained 12 places in Asia, but lagged behind its other Asian peers like Japan and China which were ranked way ahead at 4th and 13th place, respectively. Spain is ranked at the top in the list.

HIGHLIGHTS

India continues to enrich its cultural resources, protecting more cultural sites and intangible expressions through UNESCO World Heritage lists, and via a greater digital presence.

In the global ranking Spain, France and Germany were ranked at the top three positions, making them the most tourism friendly economies.

Traditional strong travel and tourism destinations, including Japan (4th), the United Kingdom (5th), the United States (6th), Australia (7th), Italy (8th), Canada (9th) and Switzerland (10th), have also made it to the top 10.

These results are of significant importance as tourism helps economic growth and job creation — up to 1/10th of global GDP and jobs are tourism-related.

The report ranks 136 countries across 14 dimensions, revealing how well countries could deliver sustainable economic and societal benefits through their travel and tourism sector.

GEO TAGGING OF AGRICULTURAL ASSETS

IN NEWS: The Rashtriya Krishi Vikas Yojna (RKVY) of the Agriculture Ministry and National Remote Sensing Centre (NRSC) a wing of Indian Space Research Organization (ISRO), signed a Memorandum of Understanding (MoU) to geo-tag agricultural assets.

Besides, ponds, crop area, warehouses, laboratories would also be geo-tagged for their real-time monitoring and effective utilization.

Space technology needs to be developed in the areas such as land resource mapping, pesticides management, soil health mapping, crop yield estimation as well as identification and assessment of flood-like calamities, inland fisheries, animal species identification and sheep rearing.

Geo-tagging: It is the process of adding geographical identification like latitude and longitude to various media such as a photo or video. Geotagging can help users find a wide variety of location-specific information from a device. It provides users the location of the content of a given picture.

<u>**Geo-mapping**</u>: A visual representation of the geographical location of geotagged assets layered on top of map or satellite imagery.

HIGHLIGHTS

- Postal department has also geotagged the post offices using NRSC Bhuvan Platform.

- National Remote Sensing Agency (NRSA), ISRO at Hyderabad : This centre of ISRO has a software platform, Bhuvan that allows users to explore a 2D/3D representation of the surface of the Earth. It also acts as a platform for hosting government data.

- NRSC is involved in mapping of resources (Postal, GAIL, Forest etc) as well as monitoring of assets created under various schemes of Ministry of water Resources, Ministry of rural development etc.

- So far NRSC has developed RKVY app, training manual, imparted training to 17 states regarding use of the app. The organisation will provide technical backstopping till the Geotagging exercise is completed. Pilot work has been initiated in 4 states of Orissa, Maharashtra, Bihar and Karnataka.

INTERNATIONAL DAY OF SPORTS FOR DEVELOPMENT AND PEACE

<u>**IN NEWS:**</u> On 23 August 2013, the Sixty-seventh session of the United Nations General Assembly decided to proclaim 6 April as the International Day of Sport for Development and Peace.

The adoption of this Day signifies the increasing recognition by the United Nations of the positive influence that sport can have on the advancement of human rights, and social and economic development.

- Sport is ideally positioned to contribute towards the United Nations' objectives for development and peace.
- In the Declaration of the 2030 Agenda for Sustainable Development sport's role for social progress is further acknowledged.
- Many organizations of the United Nations system, including the International Forum on Sport, Peace and Development, organized jointly with the United Nations Office on Sport for Development and Peace, have already established partnerships with the International Olympic Committee.
- The General Assembly also recognizes the role that the International Paralympic Committee plays in showcasing the achievements of athletes with impairment to a global audience and in acting as a primary vehicle to change societal perceptions of disability sport.

INDIA - ISRAEL

IN NEWS: India and Israel inked mega defence deals worth over $2 billion for advanced surface-to-air missile (SAM) systems, which are designed to destroy hostile aircraft, missiles and drones at a range of 70-km, to further tighten the bilateral strategic partnership.

HIGHLIGHTS

- The major deal was for the joint project between the Defence Research and Development Organization (DRDO) and Israel Aerospace Industries (IAI) for the Barak-8 medium-range SAM systems to initially include one regiment of 16 launchers and 560 missiles for the Indian Army.

- The second deal inked was for a similar SAM system to be fitted on board the 40,000-tonne indigenous aircraft carrier INS Vikrant being built at the Cochin Shipyard.

- These Barak-8 systems, with their MF-STARs (multi-function surveillance and threat alert radars) as well as weapon control systems with data links, can detect and track hostile aerial threats at a range of 100-km and destroy them at 70-km.

- Other deals include two more Israeli Phalcon AWACS (airborne warning and control systems), which are to be mounted on Russian IL-76 military aircraft, and four more Aerostat radars at a cost upwards of $1.5 billion.

TWITTER'S LITE VERSON

IN NEWS: Twitter rolled out a "data friendly" version of the platform called **Twitter Lite** in India. The product will use up to 70% less data while loading 30% faster.

Twitter Lite, which can be accessed via a mobile or Twitter browser eliminating the need to downloading the application, supports 42 language including six Indian languages – Hindi, Bengali, Kannada, Tamil, Gujarati, and Marathi.

ORGANIC AGRICULTURE PRODUCTS

IN NEWS: The Cabinet Committee on Economic Affairs has given its approval for removal of all quantitative ceilings on individual organic products and allowed unrestricted exports of all organic agricultural and organic processed products irrespective of any existing or future restriction/prohibition on the export of their basic product (non-organic).

HIGHLIGHTS

- In respect of organic pulses and lentils, in view of their acute shortage in the country, the quantitative ceiling on exports will continue but enhanced from the existing 10,000 MT per annum to 50,000 MT per annum.

- Removal of quantitative celling on wheat, sugar, non-basmati rice, organic sugar and increasing the limit on export of organic pulses.

- It will lead to reduction in input costs in farming and gaining premium price for organic agriculture products and in the process resulting in increased adoption of organic agriculture by farmers.

- All organic products exports are certified by Agricultural & Processed Food Products Export Development Authority (APEDA) under the National Programme for Organic Production (NPOP).

- Organic agriculture is a holistic production management system wherein the products are grown in accordance with principles of sustainability.

A stable export policy on organic agriculture products would complement various Government programs like **National Mission on Sustainable Agriculture (NSAM), Paramparagat Krishi Vikas Yojana (PKVY), Organic Value Chain Development in North Eastern Region (OVCDNER)** which have been taken up to encourage organic agriculture.

Parampragat Krishi Vikas Yojana

It is an elaborated component of Soil Health Management (SHM) of National Mission of Sustainable Agriculture (NMSA). Under PKVY, Organic farming is promoted through adoption of organic village by cluster approach and PGS certification.

FACTS

- The cluster chosen for Organic Farming shall be 50 acres in extent and in as contiguous a form as possible.
- Of the total number of farmers in a cluster, a minimum of 65% and marginal farmer should belong to the small categories.
- Organic Farming shall be promoted in such areas like hilly, tribal and also rainfed areas where utilization of chemical fertilizers and Pesticide is less.
- In order to facilitate this, the ceiling of subsidy that a farmer is eligible shall be a maximum of one hectare and the total financial assistance eligible for a 50 acre cluster shall be a maximum of Rs. 10(Ten) lakhs for farmer members and Rs. 4.95 lakh for mobilization and PGS Certification.

INDIA – INTERNATIONAL ENERGY AGENCY

IN NEWS: India has become part of IEA Association that will allow the country play a more "visible and influential" role in the global energy landscape.

The "Activation of Association" is expected to serve as a bridge and platform for wider-ranging and deeper co-operation and collaboration between IEA member and Association countries in the future.

India's engagement with the International Energy Agency (IEA) has enhanced over the last two decades and the "Association" status would facilitate it to participate in meetings of the standing groups, committees and working groups that constitute the IEA governance structure.

The IEA, which covers the entire spectrum of energy globally, will play an important role in India's energy security.

The Minister envisaged a greater partnership with IEA in taking forward the International Solar Alliance framework to other countries in the world.

INTERNATIONAL ENERGY AGENCY

- IEA is a Paris-based autonomous intergovernmental organization established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.

- The IEA acts as a policy adviser to its member states and also work for non-member states.

- The Agency's mandate has broadened to focus on the "3Es" of effectual energy policy: energy security, economic development, and environmental protection.

- Only the OECD member states can become members of the IEA. Except for Chile, Iceland, Israel, Mexico, and Slovenia, all OECD member states are members of the IEA.

- In 2014, Estonia joined the IEA and became its 29th member.

- China, India, Indonesia, Morocco, Singapore and Thailand are the associate members of IEA.

INTERNATIONAL CENTRE FOR FOOT AND MOUTH DISEASE

IN NEWS: Union ministry for agriculture and farmers' welfare inaugurated International Centre for Foot and Mouth Disease (ICFMD) built at a cost of Rs 200 crore at Arugul on the outskirts of Bhubaneswar.

HIGHLIGHTS

- The one-of-its-kind research centre in South Asia, will help analyse exotic virus strains in order to develop diagnostics and vaccines to prevent their incursion.
- Since foot and mouth diseases an infectious and sometimes fatal viral disease that affects cloven-hoofed animals, including domestic and wild bovids, such a research centre will be beneficial to find out the remedies for the disease.

- This is 10th in the world and it is dedicated to the nation on the occasion of Utkal Divas, the formation day of Odisha.

- Established by Indian Council of Agricultural Research, the state-of-the-art research centre with high containment laboratory facility will cater to the need of researchers and scientists for safe handling of FMD virus as per international norms

- Though 70 countries have eradicated the disease successfully, it is still endemic in India and has a direct bearing on the rural economy and farmers who depend on the cattle for eke out their living.

INDIA'S CORE SECTOR

IN NEWS: India's eight core industries grew at its slowest pace in 14 months by 1% in February compared to 3.4% in January due to sharp fall in cement and fertiliser output, government data showed signalling a tepid industrial expansion and raising concerns over job losses.

EIGHT CORE SECTORS

- Electricity, Steel, Refinery products, Crude oil, Coal, Cement, Natural gas & Fertilizers.

HIGHLIGHTS

- The eight core sectors, which contribute 38% to the industrial output, grew 9.7% in February a year ago. The February number was slowest since December 2015, when the core sector grew 0.9%.

- Cement output plunged 15.8% while fertiliser fell 5.3%, refinery products 2.3%, natural gas 1.7% and crude oil 3.4%.

- India's industrial output grew just 2.7% in January as cash ban dampened consumer demand and slowed economic output.

- In February, the RBI paused on interest rates as it expected inflation to firm up due to the rapid pace of remonetisation.

Since 2015, RBI has lower rates by 175 bps while the government has stepped up spending and speeded up reforms to pump prime the economy amid feeble global recovery.

Earlier, the CSO has projected economic growth is projected at 7.1% for 2016-17 as compared with 7.9% in 2015-16, on expectation of a fall out of demonetisation on the country during the second half.

KUNDUKULAM NUCLEAR POWER PLANT PROJECT

IN NEWS: The second unit of the Kudankulam Nuclear Power Plant Project (KKNPP) with a capacity of 1,000 MW became operational, giving a boost to the atomic power generation in the country.

Commercial operation of the KKNPP unit is expected to take total nuclear power to 6,780 MW. The unit was connected to the grid on August 2.

BACKGROUND

- The KNPP units one and two, both with a capacity of 1,000 MWs, have been built with Russian collaboration.
- The first two units are built by the Nuclear Power Corporation of India Ltd. (NPCIL), and are operated under IAEA safeguards.
- They are supervised by Russian specialists. Russia is expected to supply enriched uranium fuel for the plant's entire lifetime.
- The second unit increases India's installed nuclear generating capacity to 6,780 MW.
- The excavation of Kudankulam units three and four are currently in progress and are expected to begin supplying power by 2022-2023.

BINARY STAR SYSTEM

IN NEWS: A team of scientists from Raman Research Institute, Bengaluru, and University of Delhi have seen for the first time indications of a massive planet orbiting a low mass X-ray binary star system.

The technique that has been used, namely, X-ray observations, is a new way of detecting exoplanets. The system is nearly 30,000 light years away and the planet is expected to be nearly 8,000 times as massive as the earth.

HIGHLIGHTS

- The star system, MXB 1658-298 is an X-ray binary and a part of the constellation Ophiuchus (serpent bearer).
- X-ray binaries consist of a pair of stars orbiting each other of which one is compact one such as a black hole or a neutron star (in this case, a neutron star).
- The neutron star draws matter from its less-massive companion. The mass when drawn generates X-rays which are detected by detectors placed in satellites in space.

BACKGROUND

Discovered in 1976, this binary star system is so far and so faint that it may be observed only when it shows "outbursts" of X-rays. That is, an increase in X-ray intensity by a factor of 100 or more. Recently this system showed an outburst.

As the two stars revolve around each other, the less-massive companion star hides the compact star everytime it crosses the line of sight, in between the detector and the neutron star, giving rise to eclipses.

In X-ray binaries, the time in-between eclipses of the source can increase, decrease and also shows abrupt changes.

POWERTEX INDIA

IN NEWS: The Government has launched PowerTex India, a comprehensive scheme for powerloom sector development, simultaneously at over 45 locations in the country.

The Union Textiles Ministry and Chief Minister of Maharashtra launched PowerTex India helpline for any assistance in this regard. PowerTex India van was also flagged off for publicity of PowerTex scheme across the country.

- Pradhan Mantri Credit Scheme – A facility of loan will be provided under Pradhan Mantri Mudra Yojana (PMMY) to powerloom units/weavers which are decentralized.

- Solar Energy Scheme – Financial assistance/capital subsidy will be provided for the installation of solar plants under this component of Power Tex India scheme. There would be two options under Solar Energy Scheme.

- The scheme would provide 50% to 90% subsidy on the plantation of solar off-grid power plants. Through this component, the government is emphasizing on the use of solar energy in powerloom units.

CENTRE ON INTEGRATED RURAL DEVELOPMENT FOR ASIA AND THE PACIFIC

IN NEWS: The Union Cabinet has given its approval for signing of an Agreement between Ministry of Rural Development and Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) for establishment of CIRDAP Centre at National Institute of Rural Development and Panchayati Raj (NIRD&PR), Hyderabad.

BACKGROUND

- The CIRDAP is a regional Inter - Governmental and autonomous institution which came into existence in 1979 at the initiative of the countries of Asia Pacific region and the Food and Agriculture Organisation (FAO) of the United Nations (UN) with support from several other UN bodies and donors.

- India is one of the founding members of this Organisation. Its Headquarters is located at **Dhaka.**

- The objective of CIRDAP is to promote regional cooperation and act as a serving institution for its member countries for promotion of integrated rural development through research action, training, information dissemination etc.

- CIRDAP has one sub - regional office in Jakarta, Indonesia.

- The objective was to assist and expand CIRDAP membership and its resources, to conduct training research and pilot projects relevant to South East Asian region. There are 46 countries in Asia Pacific Region, therefore CIRDAP has great potential for expansion for which they would be assisted by CIRDAP Centres.

MYANMAR JOINED SASEC

IN NEWS: South Asia Subregional Economic Cooperation (SASEC) program of Asian Development Bank (ADB) is expanding towards the East with Myanmar formally becoming the 7th member of SASEC in 2017.

HIGHLIGHTS

- Myanmar is key to realizing greater connectivity and stronger trade and economic relations between the SASEC sub-region and the countries of East and Southeast Asia

- SASEC member countries recognize that most of SASEC's multimodal connectivity initiatives include Myanmar.

- Road corridors in Myanmar provide the key links between South Asia and Southeast Asia.

- Ports in Myanmar will provide additional gateways to the landlocked North Eastern region of India.

- Development of multi-modal connectivity between North Eastern region of India, Bangladesh and Myanmar has the potential of unleashing tremendous economic energy in the sub-region.

- SASEC's energy connectivity and energy trade prospects will be enhanced with the inclusion of Myanmar, involving its substantial resources of hydropower and natural gas.

SASEC

The South Asia Subregional Economic Cooperation (SASEC) Program brings together **Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, and Sri Lanka** in a project-based partnership that aims to promote regional prosperity, improve economic opportunities, and build a better quality of life for the people of the subregion.

SASEC countries share a common vision of boosting intraregional trade and cooperation in South Asia, while also developing connectivity and trade with Southeast Asia through Myanmar, to the People's Republic of China, and the global market.

GIGA- ENABLED CITY: HYDERABAD

IN NEWS: With the launch of 1 GBPS wired broadband internet connection, Hyderabad has become the first 'Giga-enabled' city in India.

HIGHLIGHTS

- Hyderabad is the city with highest internet penetration in India.
- With launch of the net connection, it has now become the first Giga City in the country and is on par with cities like Hong Kong and Singapore.
- ACT (Atria Convergence Technologies) Fibrenet, a Hyderabad-based company, which is a leading internet service provider in the country, has launched the connection.
- 47,000-km-long fibrenet in Telangana will provide internet to all households.

FUNGUS THAT EATS PLASTIC

IN NEWS: Scientists have identified a soil fungus, which uses enzymes to rapidly break down plastic materials, an advance that could help deal with waste problem that threatens our environment.

Humans are producing ever greater amounts of plastic — much of which ends up as garbage. Since plastic does not break down in the same way as other organic materials, it can persist in the environment over long periods of time.

HIGHLIGHTS

- Researchers from the Chinese Academy of Sciences have found an unexpected solution to the growing plastic problem in the form of a soil fungus.

- Attempts to deal with plastic waste through burying, recycling, incineration or other methods are variously unsustainable, costly and can result in toxic by-products, which are hazardous to human health.

- The team found the plastic-eating fungus living in a rubbish tip in Islamabad, Pakistan.

- **Aspergillus tubingensis** is a fungus, which ordinarily lives in the soil. In laboratory trials, the researchers found that it also grows on the surface of plastics.

- It secretes enzymes onto the surface of the plastic, and these break the chemical bonds between the plastic molecules, or polymers.

- The fungus also uses the physical strength of its mycelia — the network of root—like filaments grown by fungi — to help break apart the polymers.

KISHORI AMNKAR PASSED AWAY

IN NEWS: Renowned Hindustani classical vocalist Kishori Amonkar passed away after a brief illness. She was 84.

BACKGROUND

- Born on April 10, 1932, Amonkar was recognised as one of the foremost singers in the Hindustani tradition and as an innovative exponent of the Jaipur gharana.
- Amonkar's mother was the well-known vocalist Mogubai Kurdikar, who trained under Alladiya Khan Saheb, the doyen of the Jaipur gharana.

- Amonkar also developed her own personal style, which reflects the influence of other gharanas and was generally regarded as an individual variant of the Jaipur tradition.

- Amonkar was known primarily for her skillful singing of classical khayals set in the traditional ragas of Hindustani music, but also performed the lighter classical genres of thumri, bhajans and film music.

- Amonkar was both criticised and praised for her bending of the Jaipur tradition.

- Amonkar was awarded the Padma Bhushan (1987) and Padma Vibhushan (2002). In 2010, she became a fellow of the Sangeet Natak Akademi.

PRADHAN MANTRI UJJWALA YOJANA

IN NEWS: The number of beneficiaries of Pradhan Mantri Ujjwala Yojana for providing free of cost LPG (cooking gas) connections to BPL households has crossed 2 crore mark since its launch in May 2016.

HIGHLIGHTS: Pradhan Mantri Ujjwala Yojana (PMUY) aims to safeguard the health of women & children by providing them with a clean cooking fuel – LPG.

- Under this scheme, 5 Cr LPG connections will be provided to BPL families with a support of Rs.1600 per connection in the next 3 years.
- Connections will be issued in the name of women of the households. Rs. 8000 Cr. has been allocated towards the implementation of the scheme.
- Identification of the BPL families will be done through Socio Economic Caste Census Data.

19TH COMMONWEALTH FORESTRY CONFERENCE

IN NEWS: The 19th Commonwealth Forestry Conference held at Forest Research Institute, Dehradun,. The Indian Council of Forestry Research and Education (ICFRE) and Forest Research Institute (FRI) was the focal point of the conference, with support from MOEF & CC, the Government of India and Commonwealth Forestry Association.

The theme of the conference will be: "**Forests for Prosperity and Posterity**".

HIGHLIGHTS

- It provided a platform to encourage and strengthen forestry research and development for the benefit of the people and industry that depend on forests and related sectors for their economic and social well being.

- It identified and addressed the critical issues in the management of forests for the sustenance of rural, tribal and indigenous communities.

- To provide a stage for all stakeholders to collaborate over the better management of forests and ensure food, water and energy security, thereby contributing to the global Sustainable Development Goals.

ANTI – DOPING RULE VIOLATION STATISTICS

IN NEWS: India has been ranked third for the third year in a row in a doping violation report published by World Anti-Doping Agency (WADA) for 2015 with 117 athletes from the country being punished after testing positive for banned substances.

HIGHLIGHTS

- India followed Russian Federation (176) and Italy (129) at third spot in the doping violation chart released by the WADA, the same position as in the reports of 2013 and 2014.

- All the dope violations by the Indians came from urine samples.

- This is the first set of Anti-Doping Rule Violation statistics under the revised WADA Code and third such report in its history since 2013.

- The worrying sign for India is that the number of dope offenders has been increasing in the last three years. India had 91 and 96 Anti-doping Rule Violations (ADRVs) in 2013 and 2014 respectively.

- An ADRV is a doping offence committed by an athlete or athlete support person, which results in certain consequences or sanctions. It is derived from adverse analytical findings (AAFs), commonly known as 'positive' results.

WADA

The World Anti-Doping Agency (WADA) was established in 1999 as an international independent agency composed and funded equally by the sport movement and governments of the world.

It is a foundation initiated by the International Olympic Committee based in Canada to promote, coordinate and monitor the fight against drugs in sports.

Its key activities include scientific research, education, development of anti-doping capacities, and monitoring of the World Anti Doping Code (Code) whose provisions are enforced by the UNESCO International Convention against Doping in Sport.

The aims of the Council of Europe Anti-Doping Convention are also closely aligned with those of WADA.

GERMANY LAUNCHED CYBER COMMAND UNIT

Germany is the first NATO state to launch a "self-contained" cyber command unit designed to shield IT and weapons systems from growing attacks. The Bundeswehr's Cyber and Information Space (CIR) boasts a status equal to that of the army, navy, and air force.

Based in the former West German capital of Bonn, CIR will start off with 260 IT specialists, but will grow to 13,500 military and civilian personnel by July.

CIR will operate and protect the military's own IT infrastructure and computer-assisted weapons systems, and tackle online threats, the center would also focus on war-game offensive skills and capabilities.

JAPAN OFFICIALLY RECOGNIZED BITCOIN AS CURRENCY

IN NEWS: Bitcoin has finally gained the recognition of a mainstream currency along the lines of other fiat currencies. The privilege follows the implementation of a new law in Japan which categorizes Bitcoin as a legal payment option within the country. The much-awaited law went into effect on April 1, 2017 (beginning of a new fiscal year in many countries).

HIGHLIGHTS

- With the new law's implementation, Bitcoin exchanges will also come under additional regulatory scrutiny.

- The recognition of cryptocurrency as a legal tender also means the applicability of regulations governing banks and financial institutions to cryptocurrency exchange platforms.

- They will be required to comply with strict anti-money laundering (AML) and Know Your Customer (KYC) requirements, along with annual audits. Other requirements include meeting the stated capital and cyber security requirements to ensure consumer protection.

- The cryptocurrency platforms are still trying to figure out ways to achieve compliance with the new regulations.

- Recognizing the exchanges' needs, the Accounting Standards Board of Japan has announced that it has started working on creating an accounting framework for both user and businesses dealing with cryptocurrencies.

- The new developments are expected to drive the cryptocurrency usage in Japan to over $9 billion in the next three years (2020), which is more than five times the 2015's $1.7 billion worth of cryptocurrencies in circulation.

NEW TREE LIVING CRAB SPECIES DISCOVERED

IN NEWS: Scientists have discovered a new species of long legged, tree-dwelling crabs in Western Ghats of Kerala.

HIGHLIGHTS

- The new species named Kani maranjandu after the Kani tribe in Kerala, are substantially different from other congeners.

- The characteristic traits of the crab include the structure of its hard upper shell, its male abdominal structure and reproductive parts and diagnostic elongated walking legs, which no other genus has.

- This is the first report of its kind to offer a record of an arboreal crab — a species that lives in trees.

- The survey of the freshwater crab fauna started in 2014 in the Westerns Ghats in Kerala. People from the Kani tribe reported sightings of a 'long legged' tree crabs in the area.

- As water holding hollows in large trees are essential for the survival of this unique species, the discovery also stress the need for conservation of large trees in the degraded forest ecosystems of the Western Ghats.

BELMONT FORUM SECTRETARIAT

IN NEWS: The Union Cabinet has given its approval for signing of the Collaborative Agreement with French National Research Agency (ANR), France for supporting the Belmont Forum Secretariat from January, 2015 to December, 2017 at a total estimated expenditure of Euro 40,000. The Cabinet also approved continued financial support to Belmont Forum Secretariat beyond 2017.

BACKGROUND

- The Belmont Forum, created in 2009, is a high level group of the world's major and emerging funders of global environmental change research and international science councils.

- It provides an opportunity to identify study and deliver international environmental research priorities, for the society, in an accelerated way through trans-national research collaboration between natural and social scientists and alignment of international resources.

- India is a member of Belmont Forum, besides Australia, Brazil, Canada, European Commission, France, Germany, Japan, Netherland, South Africa, UK and USA etc.

- Ministry of Earth Science (MoES), represents India in the Belmont Forum since 2012.

- In order to coordinate the activities of the Belmont, a Secretariat is hosted by one of the Belmont forum member on rotational basis.

- France is hosting the Secretariat from January, 2015 to December, 2017.

- Expenditure for hosting the Secretariat will be borne by Belmont Forum member countries in kind or cash contribution.

RAIL DEVELOPMENT AUTHORITY

IN NEWS: The government has approved the setting up of a regulator for the railways—the Rail Development Authority (RDA).

HIGHLIGHTS

- The long-awaited 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 regulator, to be headed by a chairman and comprising three members, will have a five-year term and be empowered to engage experts.

- As part of the radical rethinking on improving the transportation architecture, the government did away with the separate railway budget, merging it in the Union budget presented on 1 February.

GRASSOLINE

IN NEWS: Scientists have developed 'grassoline' a biofuel derived from grass that could one day power aircraft.

Researchers investigated methods that can disintegrate and treat grass until it can be used as a fuel. Due to its vast abundance, grass is the perfect source of energy.

Right now the amount of biofuel that can be made from grass is still limited to a few drops. The current process is very expensive, and engines should be adapted to this new kind of fuel.

HIGHLIGHTS

- Biomass to liquid (BtL or BMtL) is a multi-step process of producing synthetic hydrocarbon fuels made from biomass via a thermochemical route. Such a fuel has been called grassoline.
- Grassoline, a new term for renewable, low carbon liquid biofuels made from grass.
- Example: cellulosic ethanol, methanol and green grassoline.
- Does not use food crops such as corns for its production (presently one third of corn crop is used).
- Cellulosic biomass can be converted into any type of fuel- ethanol, ordinary grassoline, diesel, and even jet fuel (Bio- diesel from jatropha, palm oil, algae, grass, etc.
- Three categories is cellulosic biomass—woods, grasses and inedible stalks of plants.
- On the molecular level, biomass consists largely of carbon, hydrogen and oxygen stored in the plant cell wall. Liquid fuels are made of carbon and hydrogen. Thus, from a chemical engineering perspective, refining biomass requires a simple removal of most of the oxygen molecules from the biomass feedstock. The remaining carbon and hydrogen (with some remaining oxygen) become the various fuel products.

NATIONAL ELECTRONIC FUNDS TRANSFER

IN NEWS: The Reserve Bank of India (RBI) has decided to slash clearance time for National Electronic Funds Transfer (NEFT) in an attempt to enhance efficiency of the electronic payment system and add to customer convenience.

In line with the document on Vision-2018 for Payment and Settlement Systems, the NEFT settlement cycle will be reduced from hourly batches to half hourly batches.

HIGHLIGHTS

- RBI is initiating a pilot project on financial literacy at the block level to explore innovative and participatory approaches to financial literacy.

- The pilot project will be commissioned in nine states across 80 blocks by non-government organisations (NGOs) in collaboration with sponsor banks.

- Six NGOs registered with the Depositor Education and Awareness Fund, viz. CRISIL Foundation, Mumbai; Dhan Foundation; Swadhaar Fin Access, Mumbai; Indian School of Micro Finance for Women (ISMW); Samarpit, Chhattisgarh and the PACE Foundation have been selected to execute the pilot project in collaboration with banks.

- The pilot project will be executed with the following broad objectives — active saving and good borrowing; financial planning and goal setting and going digital and consumer protection.

WORLD HEALTH DAY 2017

IN NEWS: World Health Day, celebrated on 7 April every year to mark the anniversary of the founding of WHO, provides us with a unique opportunity to mobilize action around a specific health topic of concern to people all over the world.

The theme of 2017 World Health Day campaign is "**depression".**

- Depression affects people of all ages, from all walks of life, in all countries.
- It causes mental anguish and impacts on people's ability to carry out even the simplest everyday tasks, with sometimes devastating consequences for relationships with family and friends and the ability to earn a living.
- At worst, depression can lead to suicide, now the second leading cause of death among 15-29-year olds.

GENDER PAY GAP

IN NEWS: Iceland became the first country in the world to neutralise gender pay gap.

Iceland's parliament has presented a bill that would require public and private businesses to prove they offer equal pay to employees, in what would be the first such requirement in the world.

The bill entails that companies and institutions of a certain size, 25 or more employees, undertake a certification of their equal-pay programmes.

Iceland ranks first on the World Economic Forum's 2015 Global Gender Gap Index, followed by fellow Nordic nations Norway, Finland and Sweden.

But the new law aims to close a seven percent wage gap between men and women in the island nation of more than 323,000 people.

KIRTI CHAKRA

Prem Bahadur Resmi Magar of Gorkha Rifles received Kirti chakra posthumously by the President at the defence investiture ceremony in the Capital.

The late Lance Havildar eliminated four terrorists during an operation in Jammu and Kashmir on June 16 last year.

Kirti Chakra, the second highest peacetime gallantry award.

DNA BANK FOR WILDLIFE

IN NEWS: North India is set to get its first DNA bank for wildlife. Scientists at the Indian Veterinary Research Institute (IVRI) in Bareilly are in the process of collecting DNA samples of all wild animals to set up the bank. It is expected to help in research and also in bringing down poaching.

HIGHLIGHTS

- At present, the Laboratory for the Conservation of Endangered Species (LaCONES) in Hyderabad is the only such facility in the country.
- The scientists have collected 140 samples of 25 wild animals. The DNA bank is expected to start this year-end.
- It took one year for the IVRI to collect the DNA samples of animals such as tigers, leopards, lions, elephants, rhinos and deer, which are on the radar of poachers.
- The DNA bank was the brainchild of Dr. Raj Kumar Singh, the director of Indian Council of Agricultural Research-IVRI.

The bank has 'positive sample' meaning 'known sample' which will have DNA sequencing. In future, if we get some 'unknown sample' like hair or skin, then with the help of the DNA bank, one can tell which animal it belongs to.

NUTRIENT BASED SUBSIDY (NBS) RATES

IN NEWS: The Cabinet Committee on Economic Affairs (CCEA) has approved the Fixation of Nutrient Based Subsidy (NBS) rates for Phosphatic and Potassic (P&K) fertilizers for the year 2017-18.

HIGHLGHTS

- Government has been implementing Nutrient Based Subsidy (NBS) Policy for decontrolled P&K fertilizers.

- Under this policy, the subsidy on Phosphatic and Potassic (P&K) fertilizers is announced by the Government on annual basis for each nutrient i.e., Nitrogen (N), Phosphorous (P), Potash (K) and

Sulphur (S) on per kg basis which is converted into subsidy per tonne depending upon the nutrient content in each grade of the fertilizers.

- These rates are determined taking into account the international and domestic prices of P&K fertilizers, exchange rate, inventory level in the country etc.

This is in continuation with the reforms being undertaken in the fertilizers sector over the past two and a half years including DBT for subsidy payment, neem coating of Urea, reduction in MRP of P&K fertilizers to promote balanced use of nutrients, removal of minimum production criteria for manufacturers of Single Super Phosphate (SSP).

HIV INFECTED CHILDREN AS DISADVANTAGED GROUP

IN NEWS: The Supreme Court ordered State governments to consider issuing a notification under the Right to Education law, declaring children living with/affected by HIV as a 'disadvantaged group' deserving additional rights to help them gain free and compulsory education, a fundamental right under the Constitution.

The order was based on a petition filed by NGO Naz Foundation (India) Trust, , which pointed out that HIV-infected children face denial of admission, outright expulsion, segregation, breach of confidentiality to being given chores like cleaning toilets. According to NACO estimates in 2012-2013, around 20.9 lakh people were living with HIV in 2011. Children less than 15 years of age account for seven percent (1.45 lakh) of all infections.

SC gave States four weeks to issue the notification under Section 2 (d) of The Right of Children to Free and Compulsory Education Act of 2009, which mandates the State governments concerned to issue a notification that a child belongs to a disadvantaged group based on reasons ranging from caste, social, cultural, linguistic, geographical, gender, etc. The Act makes education compulsory for children between six and 14 years of age.

AFRICAN DEVELOPMENT BANK ANNUAL MEET

IN NEWS: India will host 5-day annual meeting of the African Development Bank in Ahmedabad. The 52nd annual meeting will be held on May 22-26 in the capital city of Gujarat.

The theme of Annual Meeting this year is "Transforming Agriculture for Wealth Creation in Africa".

Indian took number of new initiatives to transform the agricultural landscape: such as setting up a target of doubling farmers' income by 2022, a new crop insurance scheme, Agriculture Irrigation Scheme, integration through an electronic National Agriculture Market (e-NAM) etc combined with 100 per cent rural electrification by 2018 and Rural Roads Scheme such initiatives have a potential to transform the rural settings.

BACKGROUND

- India joined the African Development Bank in 1982.
- The country is a key member of the institution's 24 Non-Regional Member Countries, which support the African Development Fund (ADF), the concessional resource window of the Bank.
- In 2013, India increased its contribution to the 13th replenishment of the fund by 57.28 per cent to USD 18.5 million, among other investments.

PADAYANI

Padayani is a ritual art form performed at Bhadrakali temples located on the banks of river Pampa. According to mythology, this ritualistic dance commemorates the dance performed by Lord Shiva and the other Gods to appease Goddess Durga, whose anger could not be quenched even after annihilating the demon, Darika.

Popular places where Padayani is performed are Kadammanitta, Kottangal, Othara, Kunnanthaanam and many other temples in south Kerala.

HIGHLIGHTS

- Kolam thullal is the major portion of Padayani performance.
- Kolam is a masque made by drawing images on the leaves of the arecanut palm. Wearing this Kolam, padayani dancer performs the ritual dance in devotion.
- These Kolam are representations of spiritual forces or divine characters, and are depicted with terrifying and spectacular face masks and head gear, painted in vivid colours like deep red and black, using natural powders.
- They include the Ganapathi Kolam, the Yakshi Kolam, the Pakshi Kolam, the Maadan Kolam, the Kaalan Kolam, the Maruthaa Kolam, the Pishachu Kolam, the Bhairavi Kolam, the Gandharvan Kolam and the Mukilan Kolam.
- For the Kolam thullal, the thappu is the main instrument.
- The Chenda and the Kaimani are also used.

CAG TO AUDIT UN SECRETARIAT

IN NEWS: The Comptroller and Auditor General of India will audit the UN Secretariat in New York, a job which till now was the exclusive domain of developed countries.

Unlike other international agencies, which are audited by a single country as an external auditor, the United Nations is audited by a Board of Auditors consisting of three supreme audit institutions.

HIGHLIGHTS

- At present, Auditors General of Germany and Tanzania are the members and Auditor from India is the Chair of the Board. The CAG of India's term runs from 2014 to 2020.

- Presently, there are 27 entities under the audit mandate of the Board of Auditors of the UN and each of the three Board members assumes lead role for auditing a particular entity. They also audit UNICEF, UNJSPF, UNOPS etc.

- Germany is the lead auditor of peacekeeping missions.

- Tanzania leads audit efforts on UNDP.

- However, the Board as a whole is responsible for all the audits.

- All the audit reports of the Board are signed by each of the three board members and forwarded by the chairman to the General Assembly.

- The job of the Chairman is to report audit findings of the Board of Auditors to the General Assembly through the Advisory Committee on Administrative and Budgetary Questions, which is a committee like India's Public Accounts Committee

CRIME AND CRIMINALS TARCKING NETWORK AND SYSTEM

IN NEWS: The government has approved the Ministry of Home Affairs proposal for the extension of the implementation phase of the Crime and Criminals Tracking Network and Systems (CCTNS) Project for another year beyond 31st March 2017.

The extension would help in achieving the remaining objectives of the project comprehensively. The maintenance phase of the Project will continue till 2022 as approved earlier. With a total outlay of Rs. 2000 crore, a sum of Rs. 1550 crore, which was the total allocation to the project so far, has been spent till 2016-17.

The Inter-operable Criminal Justice System (ICJS) aims to integrate the CCTNS project with the e-courts and e-prisons databases in the first instance and with the other pillars of the criminal justice system -

Forensics, Prosecution, Juvenile homes and a nationwide Fingerprint data base of criminals in a phased manner.

The integration will be achieved by providing access to the Judiciary, Police and Prisons through a desktop dashboard to facilitate expeditious and informed decisions and aid investigations.

FAME INDIA SCHEME

IN NEWS: The government has withdrawn incentives given to mild hybrid vehicles under FAME India scheme, impacting the country's largest carmaker Maruti Suzuki India the most.

FAME India is part of the National Electric Mobility Mission Plan (NEMMP). It is being administered by the Heavy Industries Ministry.

With an aim to promote eco-friendly vehicles, the government had launched the FAME India scheme in 2015 offering incentives on electric and hybrid vehicles of up to Rs 29,000 for bikes and Rs 1.38 lakh for cars.

HIGHLIGHTS

- Mild hybrid technology will stand excluded from the benefits of the FAME India scheme with effect from April 1, 2017, a notification by Ministry of Heavy Industries and Public Enterprises.

- Earlier, mild hybrid, strong hybrid, plug-in hybrid and pure electric vehicles were given incentives under the scheme.

- A mild hybrid vehicle has an electric motor, which on its own cannot run a vehicle but assists normal engine by using recovered energy stored in a battery and helps save fuel.

- MSI's Ertiga and Ciaz, equipped with Smart Hybrid Vehicle by Suzuki (SHVS) technology, had received incentives of Rs 13,000 each under the scheme.

- Mild hybrid technology is the first step towards full hybridisation. MSIL is committed to this technology which is part of the government's NEMMP programme.

VAQUITA PORPOISES

IN NEWS: In a bid to save the world's smallest species of porpoise from extinction, the Mexican government has announced plans to place some of them in a temporary refuge.

The environment ministry said the "ambitious emergency plan" to save the vaquita marina porpoise would be carried out with help from international conservation groups.

HIGHLIGHTS

- Scientists warned that there are only 30 vaquita remaining, saying the species faced extinction by 2022.
- The porpoise is native to the Gulf of California, where illegal fishing nets are threatening to wipe it out.
- Under the Mexican plan, "some animals will be transferred to a refuge, where they will be able to reproduce without the risk of being caught in gillnets.
- The most common cause of death for the vaquita is getting caught in illegal gillnets meant to catch another endangered species, a large fish called the totoaba.