



Current Affairs from 1st Oct – 21st Oct 2018

Global Environment Facility (GEF)

Why in News?

The government along with United Nations body FAO has launched an agriculture project with \$33.5 million grant from Global Environment Facility (GEF) that seeks to bring transformative change in the farm sector through conservation of biodiversity and forest landscapes.

Key facts:

- The project is being funded by the GEF and implemented by the government of India (agriculture and environment ministries) and the Food and Agriculture Organization of the United Nations (FAO).
- Aim: The project aims to transform agricultural production to generate global environmental benefits by addressing biodiversity conservation, land degradation, climate change mitigation and sustainable forest management.
- The project, to be implemented in five landscapes in Madhya Pradesh, Mizoram, Odisha, Rajasthan and Uttarakhand, strives to bring harmony between conservation and development efforts of the country.

About GEF:

- The Global Environment Facility was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems.
- It is an international partnership of 183 countries, international institutions, civil society organizations and the private sector that addresses global environmental issues.
- GEF funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements.
- The World Bank serves as the GEF Trustee, administering the GEF Trust Fund.



Current Affairs from 1st Oct – 21st Oct 2018

It is a FINANCIAL MECHANISM for five major international environmental conventions: the Minamata Convention on Mercury, the Stockholm Convention on Persistent Organic Pollutants (POPs), the United Nations Convention on Biological Diversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC).

Total expense ratio

Why in News?

Securities and Exchange Board of India (SEBI) has announced changes to total expense ratio (TER) of mutual funds.

About TER:

- Mutual funds are investments where an investor entrusts his/her money with an investment manager (of an asset management company) to manage the money smartly and efficiently.
- This money management comes at a cost, which is usually charged as a percentage of the investment.
- The official regulator of mutual funds has laid down rules on how much an asset management company can charge an investor to manage their funds. For an investor this is important because it is a charge (called total expense ratio or TER in short) levied on their investment, and the money they get back from their investment is reduced by this figure.
- So, for an investor, TER is an important number to focus on since it has a direct impact on their returns.

Changes made by SEBI now to TER?

SEBI has, across the board, lowered the TER that a fund house can charge its investors. The reduction is higher for larger funds and lower for smaller funds — larger and smaller being a measure of how much money a fund manages.

NASA's MAVEN spacecraft

Why in News?



Current Affairs from 1st Oct – 21st Oct 2018

NASA's MAVEN spacecraft has beamed back a selfie to mark its four years orbiting Mars and studying the upper atmosphere of the red planet.

MAVEN completed its primary mission in November 2015 and has been operating in an extended mission since that time, continuing its investigation of Mars' upper atmosphere and exploring additional opportunities for science that the new relay orbit will bring.

Accomplishments:

- The MAVEN mission was launched on November 18, 2013, and went into orbit around Mars on September 21, 2014.
- During its time at Mars, the spacecraft has acquired compelling evidence that the loss of atmosphere to space has been a major driver of climate change on Mars.
- It also discovered two new types of Martian auroras — diffuse aurora and proton aurora. Neither type has a direct connection to the local or global magnetic field or to magnetic cusps, as auroras do on Earth.
- MAVEN has demonstrated that the majority of the carbon dioxide (CO₂) on the planet has been lost to space and that there is not enough left to terraform the planet by warming it, even if the CO₂ could be released and put back into the atmosphere.

About MAVEN mission:

- Mars Atmosphere and Volatile Evolution (MAVEN) mission was developed by NASA to study the Martian atmosphere while orbiting Mars. MAVEN was launched aboard an Atlas V launch vehicle.
- Mission goals include determining how the planet's atmosphere and water, presumed to have once been substantial, were lost over time.

MAVEN mission has four primary scientific objectives:

- Determine the role that loss of volatiles to space from the Martian atmosphere has played through time.
- Determine the current state of the upper atmosphere, ionosphere, and interactions with the solar wind.
- Determine the current rates of escape of neutral gases and ions to space and the processes controlling them.



Current Affairs from 1st Oct – 21st Oct 2018

- Determine the ratios of stable isotopes in the Martian atmosphere.

Financial Inclusion Index

Why in News?

Financial Inclusion Index has been launched.

About Financial Inclusion Index:

- Department of Financial Services (DFS), Ministry of Finance will release an Annual Financial Inclusion Index (FII).
- The single composite index gives a snap shot of level of financial inclusion that would guide Macro Policy perspective.
- The index will be a measure of access and usage of a basket of formal financial products and services that includes savings, remittances, credit, insurance and pension products.

The index will have three measurement dimensions:

1. Access to financial services.
2. Usage of financial services.
3. Quality.

Utility of the Index:

- The various components of the index will help to measure financial services for use of internal policy making.
- Financial Inclusion Index can be used directly as a composite measure in development indicators.
- It enables fulfillment of G20 Financial Inclusion Indicators requirements.
- It will also facilitate researchers to study the impact of financial inclusion and other macro-economic variables.

Goods and Services Tax Network (GSTN)

Why in News?



Current Affairs from 1st Oct – 21st Oct 2018

The Union Cabinet has approved the proposal to convert Goods and Services Tax Network (GSTN) into a government-owned company. The government will now own 100% of the IT backbone to the new indirect tax regime.

Shareholding Pattern:

Currently, the Centre and states together hold 49% stake in GSTN. The remaining 51% is held by five private financial institutions – HDFC Ltd, HDFC Bank Ltd, ICICI Bank Ltd, NSE Strategic Investment Co and LIC Housing Finance Ltd.

About GSTN:

- The GSTN was floated to aid the rollout of the new indirect tax regime.
- The company will provide information technology support to all stakeholders for smooth implementation of the new taxation regime across the country and will be the repository of all information related to taxation and entities registered under GST.

Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative

Why in News?

The government has launched Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative to set up Compressed Bio-Gas (CBG) production plants and make available CBG in the market for use in automotive fuels.

About the initiative:

- The initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation (SATAT) as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- Compressed Bio-Gas plants are proposed to be set up mainly through independent entrepreneurs. CBG produced at these plants will be transported through cascades of cylinders to the fuel station networks of OMCs for marketing as a green transport fuel alternative.
- The entrepreneurs would be able to separately market the other by-products from these plants, including bio-manure, carbon-dioxide, etc., to enhance returns on investment.



Current Affairs from 1st Oct – 21st Oct 2018

- It is planned to roll out 5,000 Compressed Bio-Gas plants across India in a phased manner, with 250 plants by the year 2020, 1,000 plants by 2022 and 5,000 plants by 2025. These plants are expected to produce 15 million tonnes of CBG per annum, which is about 40% of current CNG consumption of 44 million tonnes per annum in the country.
- At an investment of approx. Rs. 1.7 lakh crore, this initiative is expected to generate direct employment for 75,000 people and produce 50 million tonnes of bio-manure for crops.

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution.
- Additional revenue source for farmers.
- Boost to entrepreneurship, rural economy and employment.
- Support to national commitments in achieving climate change goals.
- Reduction in import of natural gas and crude oil.
- Buffer against crude oil/gas price fluctuations.

Significance:

- This move has the potential to boost availability of more affordable transport fuels, better use of agricultural residue, cattle dung and municipal solid waste, as well as to provide an additional revenue source to farmers.
- The initiative holds great promise for efficient municipal solid waste management and in tackling the problem of polluted urban air due to farm stubble-burning and carbon emissions.
- Use of CBG will also help bring down dependency on crude oil imports.

About Bio-gas:

Bio-gas is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. After purification, it is compressed and called CBG, which has pure methane content of over 95%.



Current Affairs from 1st Oct – 21st Oct 2018

What is CBG?

- Compressed Bio-Gas is exactly similar to the commercially available natural gas in its composition and energy potential.
- With calorific value (~52,000 KJ/kg) and other properties similar to CNG, Compressed Bio-Gas can be used as an alternative, renewable automotive fuel.
- Given the abundance of biomass in the country, Compressed Bio-Gas has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.
- Compressed Bio-Gas can be produced from various bio-mass/waste sources, including agricultural residue, municipal solid waste, sugarcane press mud, distillery spent wash, cattle dung and sewage treatment plant waste.
- The other waste streams, i.e, rotten potatoes from cold storages, rotten vegetables, dairy plants, chicken/poultry litter, food waste, horticulture waste, forestry residues and treated organic waste from industrial effluent treatment plants (ETPs) can be used to generate biogas.

Eco-sensitive area (ESA)

Why in News?

The centre will soon issue a fresh draft notification declaring Western Ghats as an eco-sensitive area (ESA) with all but one of the six affected states on board.

- Karnataka is set to reject the notification as “it will adversely affect the state’s economy.” Karnataka is not in favour of declaring the Western Ghats as an ESA.

What’s the issue?

A draft notification regarding ecologically sensitive areas, issued by the Ministry of Environment, Forest and Climate Change (MoEF), has been delayed for over a year due to on-going negotiations between the Centre and the states. The initial draft, in March 2014, which was to be finalised in 545 days or by September 2015, has been repeatedly pushed.

The notice earmarked 60,000 square kilometres, or 37 per cent of the Ghats, as ecologically sensitive.



Current Affairs from 1st Oct – 21st Oct 2018

However, it was protested by the states, especially Kerala, as ESAs restrict developmental activity. The Centre has since decided to accept recommendations from each state government.

What are ESAs?

An ecologically sensitive area is one that is protected by the government given the sheer number of species, plants and animals endemic to the region. According to the Environment (Protection) Act, 1986, the government can prohibit industrial operations such as mining, sand quarrying and building thermal power plants in sensitive areas.

- The definition offered by the MoEF: “An ecological sensitive area is a bio-climatic unit (as demarcated by entire landscapes) in the Western Ghats wherein human impacts have locally caused irreversible changes in the structure of biological communities (as evident in number/ composition of species and their relative abundances) and their natural habitats.”
- To categorise an area as ecologically sensitive, the government looks at topography, climate and rainfall, land use and land cover, roads and settlements, human population, biodiversity corridors and data of plants and animal species.

The Kasturirangan committee report:

- The MoEF notification is based on findings of a High-Level Working Group, also known as the Kasturirangan committee. The government-appointed committee had said that the natural landscape of the Ghats constitutes only 41 per cent, or which 90 percent or 60,000 square kilometres were identified as ecologically sensitive.
- The committee suggested phasing out current mining projects within five years, or when mining leases were about to expire. It recommended that infrastructure and development projects be subject to environmental clearance, and that villages in ESA be involved in decision making regarding future projects.
- The notification was deemed too environmentally friendly by stakeholder states.



Current Affairs from 1st Oct – 21st Oct 2018

Significance of Western Ghats:

The Western Ghats was included as a 'World Natural Heritage Site' by UNESCO in 2012. According to the organisation, the Ghats, which are older than the Himalayas, are home to at least 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species. It has been recognised as one of the world's eight 'hottest hotspots' of biological diversity.

Commodity derivatives contract in gold and silver

Why in News?:

The Bombay Stock Exchange became the first stock exchange in the country to launch commodity derivatives contract in gold and silver.

Background:

Till date, commodity derivatives contract are available only on MCX and NCDEX, the two specialised commodity derivatives exchanges in the country. The launch of commodity derivatives platform on the BSE will help in efficient price discovery, reduce timeline and make it cost-effective.

Definition: A derivative is a contract between two parties which derives its value/price from an underlying asset. The most common types of derivatives are futures, options, forwards and swaps.

Description: It is a financial instrument which derives its value/price from the underlying assets. Originally, underlying corpus is first created which can consist of one security or a combination of different securities. The value of the underlying asset is bound to change as the value of the underlying assets keep changing continuously. Generally stocks, bonds, currency, commodities and interest rates form the underlying asset.

World's first Hyperloop passenger capsule unveiled

Why in News?:

Hyperloop Transportation Technologies Inc. has unveiled its first full-scale passenger capsule in Spain.



Current Affairs from 1st Oct – 21st Oct 2018

- The capsule is 105 feet (32 meters) long and weighs 5 tons. Named as the Quintero One, the product is made almost entirely out of composite material.

About hyperloop transportation system?

It is a transportation system where a pod-like vehicle is propelled through a near-vacuum tube connecting cities at speeds matching that of an aircraft.

The hyperloop concept is a brainchild of Tesla founder Elon Musk. US-based Hyperloop Transport Technology (HTT) claimed it costs \$40 million per kilometre to build a hyperloop system while building a high-speed train line would cost almost twice. The hyperloop system is being designed to transport passengers and freight.

How it operates?

- In hyperloop transportation, custom-designed capsules or pods are expected to zip smoothly through continuous steel tubes which are held at partial vacuum.
- The pod which sandwiches the passenger compartment between an air compressor upfront and a battery compartment in the rear is supported by air caster skis at the bottom.
- The skis float on a thin layer of air provided under high pressure, eliminating rolling resistance and allowing for movement of the pods at high speeds.
- These capsules are expected to be driverless with estimated speeds of 1,000 km/h.
- Linear induction motors that are placed along the tube control the speed of the pod.
- Electronically-assisted acceleration and braking determines the speed of the capsule.

Challenges:

- Constructing a tube hundreds of kilometers long would be an engineering marvel in of itself. However, introducing a tube hundreds of kilometers long that operates at a near perfect vacuum which can support the force of capsule weighing thousands of kilograms as it travels hundreds of kilometers an hour is nothing short of sci-fi fantasy.
- Small scale experiments reveal the fundamentals of the idea are sound. Although, in the real world, there are too many factors that cannot be accounted for with a small scale design. In the real world, there are tens of



Current Affairs from 1st Oct – 21st Oct 2018

thousands of kilograms of atmospheric pressure which threatens to crush any vacuum chamber.

- There is also the problem with thermal expansion which threatens to buckle any large structure without proper thermal expansion capabilities. The Hyperloop would also be stupendously expensive. There are many unavoidable problems facing the Hyperloop that threaten the structural integrity, and every human life on board. The problems can be addressed, but at a great cost.

Facts for Prelims:

- The government of Andhra Pradesh has signed a Memorandum of Understanding (MoU) with California-based Hyperloop Transportation Technologies (HTT) to develop India's first Hyperloop route in the state.
- The proposed route for the Hyperloop between the city centers of Vijaywada and Amaravati could potentially turn a trip of more than one hour into a 6 minute ride.
- The project will use a Public Private Partnership (PPP) model with funding primarily from private investors.

Future of Work in India” survey by WEF

Why in News?:

“Future of Work in India” survey report has been released by the World Economic Forum (WEF).

- The “Future of Work in India” survey of 770 companies conducted by the WEF (World Economic Forum) included various sectors such as textiles, banking & financial services, transport & logistics, and retail.

Highlights and findings of the report:

Major gender gap in Indian corporates: Four out of five retail firms hire less than 10% women. Companies in India experiencing the highest growth prefer hiring men and technology-led job growth benefits men more than women. Notably, while one in three companies preferred hiring men, only one in 10 companies said they wanted to hire more women, accentuating the gender gap rampant in the country.



Current Affairs from 1st Oct – 21st Oct 2018

Statistics: The report found that just 2.4% of these have half or more female employees, and as many as 71% have fewer than 10%. Out of this 71%, 30% companies have no female employees, and another 32% have less than 5%. The sector-wise breakup showed that 79% companies in retail, and 77% in transport & logistics, have less than 10% female employees, while banking & finance companies have 61% female participation and textiles 64%.

Global comparison: India's female workforce participation is mere 27% and stands 23% points lower than global average. Jobs in India are experiencing highest growth and companies are hiring women at only 26%. Women in India are entering workforce at a slower rate than current female workforce participation.

More than 33% of the total companies said that they prefer to hire men, as compared to just over one-tenth that said that they are looking to hire more women going forward. In the last five years, the surveyed companies stated that they hired just 26% female workers in the job roles that saw the most growth, which is less than India's already low female labour force participation of 27%.

About WEF:

The World Economic Forum is the International Organization for Public-Private Cooperation.

- The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.
- It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland. It is independent, impartial and not tied to any special interests. The Forum strives in all its efforts to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance. Moral and intellectual integrity is at the heart of everything it does.

Parker Solar Probe

Context:

NASA's historic mission- Parker Solar Probe- to solve the mysteries of the Sun has successfully completed its flyby of Venus on October 3rd. The probe successfully



Current Affairs from 1st Oct – 21st Oct 2018

completed its flyby of Venus at a distance of about 1,500 miles during the first Venus gravity assist of the mission.

- These gravity assists will help the spacecraft tighten its orbit closer and closer to the Sun over the course of the mission.

What next?

Throughout its mission, the probe will make six more Venus gravity assists and 24 total passes by the Sun. This manoeuvre will change Parker Solar Probe's trajectory to take the spacecraft closer to the Sun.

About the mission:

What is it?

NASA's historic Parker Solar Probe mission will revolutionize our understanding of the sun, where changing conditions can propagate out into the solar system, affecting Earth and other worlds.

Parker Solar Probe will travel through the sun's atmosphere, closer to the surface than any spacecraft before it, facing brutal heat and radiation conditions — and ultimately providing humanity with the closest-ever observations of a star.

Journey:

In order to unlock the mysteries of the sun's atmosphere, Parker Solar Probe will use Venus' gravity during seven flybys over nearly seven years to gradually bring its orbit closer to the sun.

The spacecraft will fly through the sun's atmosphere as close as 3.9 million miles to our star's surface, well within the orbit of Mercury and more than seven times closer than any spacecraft has come before.

Goals:

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



Current Affairs from 1st Oct – 21st Oct 2018

Parker Solar Probe has three detailed science objectives:

1. Trace the flow of energy that heats and accelerates the solar corona and solar wind.
2. Determine the structure and dynamics of the plasma and magnetic fields at the sources of the solar wind.
3. Explore mechanisms that accelerate and transport energetic particles.

Why study corona?

The corona is hotter than the surface of the sun. The corona gives rise to the solar wind, a continuous flow of charged particles that permeates the solar system. Unpredictable solar winds cause disturbances in our planet's magnetic field and can play havoc with communications technology on Earth. Nasa hopes the findings will enable scientists to forecast changes in Earth's space environment.

Why do we study the sun and the solar wind?

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



Current Affairs from 1st Oct – 21st Oct 2018

NASA's New Horizons mission

Why in News?:

NASA's New Horizons probe is on course to fly by the Kuiper Belt object nicknamed Ultima Thule, which is at a distance of 6.6 billion kilometers from Earth. This event will set the record for the most distant object ever visited by a spacecraft.

About New Horizons Mission:

- New Horizons was launched on 19 January 2006, and has been travelling through space for the past nine years.
- Just over a year after launch, it passed Jupiter and used the giant world's gravity to boost its velocity, as well as making scientific observations. This boost shortened the time to reach Pluto by years.
- The mission will complete what NASA calls the reconnaissance of the classical solar system, and it makes the **U.S. the first nation to send a space probe to every planet from Mercury to Pluto**. The probe has traveled more than 3 billion miles to reach Pluto.
- New Horizon's core science mission is to **map the surfaces of Pluto and Charon, to study Pluto's atmosphere and to take temperature readings**.
- The spacecraft was launched in 2006, before the big debate started over Pluto's status as a planet. In August of that same year, the International Astronomical Union reclassified Pluto as a dwarf planet.

NASA balloon mission

Why in News?:

Scientists have begun to analyse the photos captured by the NASA balloon mission.

- The mission recently captured the images of noctilucent clouds or polar mesospheric clouds (PMCs). These images may help scientists better understand turbulence in the atmosphere, as well as in oceans, lakes and other planetary atmospheres.

About the Mission:



Current Affairs from 1st Oct – 21st Oct 2018

NASA's polar mesospheric clouds (PMCs) Turbo mission launched a giant balloon on July 8 to study PMCs at a height of 50 miles above the surface.

For five days, the balloon floated through the stratosphere from its launch at Esrange, Sweden, across the Arctic to Western Nunavut, Canada.

During its flight, cameras on board the balloon captured six million high-resolution images filling up 120 terabytes of data storage — most of which included a variety of PMC displays, revealing the processes leading to turbulence.

Objectives of the mission:

- The mission aimed at studying atmospheric motions, such as airflow over mountains or the motions caused by thunderstorms, which can cause disturbances in the atmosphere which are generated through something called gravity waves.
- Besides, with this mission, scientists want to understand the processes of matter in near-Earth space, including how matter there interacts with Earth's atmosphere and weather.

What are PMCs?

Polar mesospheric clouds (PMCs) form 50 miles above the poles during summer. They're mostly made up of ice crystals and appear like faint lines in the sky. The clouds are only visible during twilight, when the angle of the sun reflects off them and causes them to shine a bright electric blue or white colour.

These clouds are affected by what is known as atmospheric gravity waves – caused by the convecting and uplifting of air masses, such as when air is pushed up by mountain ranges.

The waves play major roles in transferring energy from the lower atmosphere to the mesosphere.

Transiting Exoplanet Survey Satellite

Why in News?:



Current Affairs from 1st Oct – 21st Oct 2018

Nasa's Transiting Exoplanet Survey Satellite, better known as TESS, has discovered "super-Earth" and "hot Earth" planets in solar systems at least 49 light-years away, marking the satellite's first discovery since its April launch.

Key findings:

The two newly discovered planets are Pi Mensae c, a "super-earth" planet 60 light-years away orbiting its sun every 6.3 days and LHS 3844 b, a "hot-earth" planet 49 light-years away that orbits its sun every 11 hours.

About TESS mission:

The Transiting Exoplanet Survey Satellite (TESS) is a NASA mission that will look for planets orbiting the brightest stars in Earth's sky. It was led by the Massachusetts Institute of Technology with seed funding from Google.

Mission: The mission will monitor at least 200,000 stars for signs of exoplanets, ranging from Earth-sized rocky worlds to huge gas giant planets. TESS, however, will focus on stars that are 30 to 100 times brighter than those Kepler examined. This will help astronomers better understand the structure of solar systems outside of our Earth, and provide insights into how our own solar system formed.

Orbit: TESS will occupy a **never-before-used orbit** high above Earth. The elliptical orbit, called P/2, is exactly half of the moon's orbital period; this means that TESS will orbit Earth every 13.7 days. Its closest point to Earth (67,000 miles or 108,000 kilometers) is about triple the distance of geosynchronous orbit, where most communications satellites operate.

How it works? It will use transit method to detect exoplanets. It watches distant stars for small dips in brightness, which can indicate that planet has passed in front of them. Repeated dips will indicate planet passing in front of its star. This data has to be validated by repeated observations and verified by scientists.

Significance of the mission:

- TESS is designed to build on the work of its predecessor, the Kepler space telescope, which discovered the bulk of some 3,700 exoplanets documented during the past 20 years and is running out of fuel.



Current Affairs from 1st Oct – 21st Oct 2018

- Nasa expects to pinpoint thousands more previously unknown worlds, perhaps hundreds of them **Earth-sized or “super-Earth” sized – no larger than twice as big as our home planet.**
- Those are believed the most likely to feature rocky surfaces or oceans and are thus considered the best candidates for life to evolve. Scientists have said they hope TESS will ultimately help catalog at least 100 more rocky exoplanets for further study in what has become one of astronomy’s newest fields of exploration.

Pluto to be aa planet again

Why in News?

Scientists are arguing that denying Pluto planetary status is invalid and erroneous. A team of scientists is indicating that the basis on which Pluto was rejected as a planet does not have any support in research literature.

Background:

When Pluto was discovered in 1930, it was the ninth planet in the solar system based on an overestimation of its size. However, Pluto seemed to look out of place among the other larger planets after the discovery of swarms of ice dwarfs – icy rocks in the Kuiper Belt, at the very edge of the solar system billions of miles from the sun. Due to this, some astronomers suggested that Pluto could be just another Kuiper Belt Object (KBO) and not a planet.

How is a planet defined?

In 2006, the International Astronomical Union (IAU) laid out some guidelines for a celestial body to be called a planet. The IAU said that there were three conditions that must be fulfilled for a celestial body to be termed as a planet: 1) it must be round; 2) it must orbit the sun; and 3) it must have “cleared the neighbourhood” of its orbit.

Why was Pluto rejected?

According to the IAU’s definition, Pluto does not meet the criteria, as Neptune’s gravity influences it, and Pluto shares its orbit with frozen gases and objects in the Kuiper belt.



Current Affairs from 1st Oct – 21st Oct 2018

Pluto downgraded to “dwarf planet”:

After several years of intense debate, astronomers finally reached a consensus in August 2006. They decided to demote Pluto in an extreme redefinition of planethood that seemed to favour scientific reasoning over historic and cultural influences. The decision meant that Pluto will not be a planet anymore.

Pluto stood apart from the other discovered planets. Not only because of its small size, but because its elongated orbit was tilted with respect to other planets, and it goes insides Neptune’s orbit as part of its 248-year journey around the sun.

Key facts:

- Pluto has five known moons, the largest of which is Charon. Charon is about half the size of Pluto itself, making it the largest satellite relative to the planet it orbits in our solar system.
- Pluto orbits the Sun about 3.6 billion miles (5.8 billion km) away on average.
- A year on Pluto is 248 Earth years. A day on Pluto lasts 153 hours, or about 6 Earth days.
- Pluto has a thin atmosphere of nitrogen, methane and carbon monoxide. The atmosphere has a blue tint and distinct layers of haze.

Hayabusa 2

Why in News?:

Hayabusa2, a Japanese space probe has released a pair of exploring rovers towards an egg-shaped asteroid- the Ryugu asteroid, to collect mineral samples that may shed light on the origin of the solar system.

The mission:

- If the mission is successful, the rovers will conduct the **world’s first moving, robotic observation of an asteroid surface.**
- Taking advantage of the asteroid’s low gravity, they will jump around on the surface — soaring as high as 15 metres and staying in the air for as long as 15



Current Affairs from 1st Oct – 21st Oct 2018

minutes — to survey the asteroid's physical features with cameras and sensors.

About Hayabusa 2:

- Hayabusa 2 is an unmanned explorer. It was launched in 2014 aboard Japan's main H-IIA rocket from Tanegashima Space Centre for its six-year mission to bring back mineral samples from the asteroid.
- The probe will also release a French-German landing vehicle named Mobile Asteroid Surface Scout (MASCOT) for surface observation.
- Hayabusa2, about the size of a large fridge and equipped with solar panels, is the successor to JAXA's first asteroid explorer, Hayabusa — Japanese for falcon.
- If all goes well, soil samples will be returned to Earth in late 2020.

RemoveDEBRIS

Why in News?:

RemoveDebris system has successfully completed its capture test.

Background:

Back in June, the RemoveDEBRIS system was deployed from the International Space Station. On September 16th, the group began to proceed with in-space testing.

Operating over 186 miles (300 km) above the Earth, the RemoveDEBRIS system set out to capture a tiny satellite known as a CubeSat. With a net shooting off at around 44 MPH (20 meters per second) and a vision based navigation including cameras and LiDAR, the net was able to quickly capture the runaway CubeSat.

About RemoveDebris mission:

- RemoveDebris is an EU (European Union) research project to develop and fly a low cost in-orbit demonstrator mission that aims to de-risk and verify technologies needed for future ADR (Active Debris Removal) missions.
- RemoveDebris is aimed at performing key ADR technology demonstrations (e.g., capture, deorbiting) representative of an operational scenario during a



Current Affairs from 1st Oct – 21st Oct 2018

low-cost mission using novel key technologies for ADR. The project is based on and aimed at contributing to global/European ADR roadmaps.

How it works?

A microsatellite called here RemoveSAT, will release, capture and deorbit two space debris targets, called DebrisSats, in sequence using various rendezvous, capture and deorbiting technologies thus demonstrating in orbit, key ADR technologies for future missions in what promises to be the first ADR technology mission internationally.

Background:

- Space junk is an ever-growing problem with more than 7,500 tonnes of redundant hardware now thought to be circling the Earth. Ranging from old rocket bodies and defunct spacecraft through to screws and even flecks of paint – this material poses a collision hazard to operational missions.
- The rising population of space debris increases the potential danger to all space vehicles, but especially to the International Space Station (ISS), space shuttles, satellites and other spacecraft.

Comprehensive Convention on International Terrorism' (CCIT)

Why in News?:

External Affairs Minister Sushma Swaraj reiterated India's demand for a Comprehensive Convention on International Terrorism (CCIT) at the UN General Assembly recently.

Background:

As a country affected by terrorism, long before the more powerful countries of the developed world began to take cognisance of the threat it poses to international peace and security, India has always condemned terrorism in all its forms and manifestations; stressed that tackling such behaviour required a holistic approach and collective action; and recommended that the scope of legal instruments must be expanded to bring the perpetrators of terrorism to justice.

India, therefore, has a vital stake in the formulation of counter-terrorist measures at the international level, including a Comprehensive Convention on International



Current Affairs from 1st Oct – 21st Oct 2018

Terrorism (CCIT). It is in this context that India had proposed a draft of a CCIT as far back as 1996.

CCIT:

What is it?

The Comprehensive Convention on International Terrorism is a proposed treaty which intends to criminalize all forms of international terrorism and deny terrorists, their financiers and supporters access to funds, arms, and safe havens.

It is a draft proposed by India in 1996 that is yet to be adopted by the UNGA.

What does it call for?

- Universal definition of terrorism: no good terrorist or bad terrorist.
- Ban on all groups regardless of country of operation, cut off access to funds and safe havens.
- Prosecution of all groups including cross border groups.
- Amending domestic laws to make cross-border terror an extraditable offence.
- It also addresses, among other things, the issue of Pakistan's alleged support for cross-border terrorism in south Asia.

Concerns expressed by various countries:

- US + allies: concerns over definition of terrorism, including acts by US soldiers in international interventions without UN mandate.
- Latin American countries: concerns over international humanitarian laws being ignored.
- There are also concerns that convention will be used to target Pakistan and restrict rights of self-determination groups in Palestine, Kashmir etc.

GCTF Terrorist Travel Initiative

Why in News?



Current Affairs from 1st Oct – 21st Oct 2018

United States and Morocco have launched GCTF Terrorist Travel Initiative under auspices of Global Counterterrorism Forum (GCTF). It was launched on sidelines of United Nations General Assembly (UNGA) session in New York.

GCTF Terrorist Travel Initiative:

- The initiative brings together stakeholders to share expertise on developing and implementing effective counterterrorism watchlisting and screening tools.
- The new initiative will strengthen UNSC Resolution 2396 aiming to stop terrorist travel altogether. It will improve capabilities for detecting and interdicting terrorist travel through enhanced terrorist screening and information sharing.
- It will bring together national and local governments, law enforcement and border screening practitioners and international organizations to share expertise to develop and implement effective counterterrorism watchlisting and screening tools.
- Under this initiative, series of four regional workshops in 2018 and 2019 will be convened to develop set of good practices that will be endorsed at 2019 GCTF Ministerial. The resulting document will reinforce countries and organizations to use border security tools prescribed in UNSC Resolution 2396 to stop terrorist travel.

Global Counterterrorism Forum (GCTF):

GCTF's is international apolitical, multilateral counter-terrorism (CT) platform of 29 countries and European Union (EU) with overarching mission of reducing vulnerability of people worldwide to terrorism by preventing, combating, and prosecuting terrorist acts and countering incitement and recruitment to terrorism. It was launched officially in New York on 22 September 2011.

GCTF's goal is:

- **to strengthen capabilities to develop strategic, long-term approach to counter terrorism and prevent violent extremist ideologies that underpin it.**
- Its mission is to diminish terrorist recruitment and increase countries' civilian capabilities for dealing with terrorist threats within their borders and regions.



Current Affairs from 1st Oct – 21st Oct 2018

How are Cyclones named?

Why in News?:

Cyclonic storm 'TITLI' has hit the Bay of Bengal and another cyclonic storm 'LUBAN' has hit the Arabian sea.

How are cyclones named?

In September 2004, an international panel on tropical cyclones decided that countries from the region would each put in names, which would be assigned to storms in the Bay of Bengal and Arabian Sea.

- Eight countries — India, Pakistan, Bangladesh, Maldives, Myanmar, Oman, Sri Lanka and Thailand – participated and came up with a list of 64 names.
- In the event of a storm, the Regional Specialized Meteorological Centre, New Delhi, selects a name from the list.

Why it is necessary to name cyclones?

The late origin of this naming system — unlike storms in the Atlantic, which have been getting named since 1953 — was ostensibly to protect sensitivities in the ethnically diverse region.

The purpose of the move was also to make it easier for “people easily to understand and remember the tropical cyclone/hurricane in a region, thus to facilitate disaster risk awareness, preparedness, management and reduction.

Guidelines for naming cyclones:

Citizens can submit names to the Director General of Meteorology, IMD, for consideration, but the weather agency has strict rules for the selection process.

- A name, for instance, 'should be short and readily understood when broadcast'.
- The names must also be neutral, 'not culturally sensitive and not convey some unintended and potentially inflammatory meaning'.



Current Affairs from 1st Oct – 21st Oct 2018

- Furthermore, on the account of the 'death and destruction' a storm in the Indian Ocean causes, their names are retired after use, unlike those in the Atlantic and Eastern Pacific lists, which are reused every few years.

Cyclone categories:

- Category 1: Wind and gales of 90-125 kph, negligible house damage, some damage to trees and crops.
- Category 2: Destructive winds of 125-164 kph. Minor house damage, significant damage to trees, crops and caravans, risk of power failure.
- Category 3: Very destructive winds of 165-224 kph. Some roof and structural damage, some caravans destroyed, power failure likely.
- Category 4: Very destructive winds of 225-279 kph. Significant roofing loss and structural damage, caravans destroyed, blown away, widespread power failures.
- Category 5: Very destructive winds gusts of more than 280 kph. Extremely dangerous with widespread destruction.

Names reused every six years:

Atlantic and Pacific storm names are reused every six years, but are retired "if a storm is so deadly or costly that the future use of the name would be insensitive or confusing," according to forecasters at the US National Hurricane Center in Miami.

Cyclone season:

The country's cyclone season runs from April to December, with severe storms often causing dozens of deaths, evacuations of tens of thousands of people from low-lying villages and wide damage to crops and property.

What's the difference between hurricanes, cyclones and typhoons?

- Hurricanes, cyclones and typhoons are all tropical storms. They are all the same thing but are given different names depending on where they appear. When they reach populated areas they usually bring very strong wind and rain which can cause a lot of damage.
- Hurricanes are tropical storms that form over the North Atlantic Ocean and Northeast Pacific. Cyclones are formed over the South Pacific and Indian Ocean. Typhoons are formed over the Northwest Pacific Ocean.



Current Affairs from 1st Oct – 21st Oct 2018

Inland Waterways Authority of India (IWAI)

Charter of IWAI

- Development and regulation of National Waterways
- Advise Central Government on matters relating to IWT
- Assist State Governments in development of IWT
- Lay down standards for classification of inland waterways
- Enter into joint ventures concerning inland shipping
- Conduct research in matters relating to IWT

Why in News?

Inland Waterways Authority of India (IWAI) will be starting a new Roll on-Roll off (Ro-Ro) facility in collaboration with the Government of Assam to provide the much-needed connectivity for Majuli Island.

Benefits:

This Ro-Ro facility will cut down the circuitous road route of 423 KMs that trucks take from Neamati to Majuli Island via Tezpur Road Bridge, by limiting the distance to only 12.7 KM with the use of river route.

About Majuli Island:

- Majuli is the first island district of the country. The island is formed by the Brahmaputra river in the south and the Kherkutia Xuti, an anabranch of the Brahmaputra, joined by the Subansiri River in the north. Majuli is the nerve centre of neo-Vaishnavite.
- Majuli Island was also declared the largest river island in the world, topping Marajo in Brazil, by Guinness World Records in 2016.

About IWAI:

- Inland Waterways Authority of India (IWAI) is the statutory authority in charge of the waterways in India. Its headquarters is located in Noida, UP.



Current Affairs from 1st Oct – 21st Oct 2018

Countering America's Adversaries Through Sanctions Act (CAATSA)

Why in News?

India and Russia have concluded the contract for five S-400 'Triumph' missile systems, one of the biggest defence deals in recent times.

- However, the U.S. has warned the deal would invoke sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA) law.

What is CAATSA?

- CAATSA is a US federal law that imposed sanctions on Iran, North Korea and Russia.
- It includes sanctions against countries that engage in significant transactions with Russia's defence and intelligence sectors.
- However, any imposition of sanctions on India, which is now a major defence partner, could be disastrous for the bilateral relationship.

What is S-400?

- It is an air defence missile system that can take down enemies' aircraft in the sky from the surface itself.
- The S-400 is known as Russia's most advanced long-range surface-to-air missile defence system, capable of destroying hostile strategic bombers, jets, missiles and drones at a range of 380-km.
- The S-400 is an upgraded version of the S-300 systems. The missile system, manufactured by Almaz-Antey, has been in service in Russia since 2007.

Why does India want S-400?

- S-400 would be like a "booster shot" in the Indian Air Force's (IAF) arm. India needs to be well-equipped against neighboring threats.
- Pakistan has over 20 fighter squadrons, with upgraded F-16s, and inducting J-17 from China in large numbers.
- China has 1,700 fighters, including 800 4-Gen fighters.



Current Affairs from 1st Oct – 21st Oct 2018

National e-Vidhan Application

Why in News?:

The government recently inaugurated the two-day National Orientation workshop on National e-Vidhan Application (NeVA). The government also launched a new website for NeVA.

About NeVA:

- NeVA is a member-centric, decentralized digital application that makes information available on digital platform about day to day functioning of Legislative Houses covering various businesses of the Houses.
- The application would host a secure page for each Member of the House for submitting Questions & other Notices.
- The mNeVA (NeVA-mobile app) is a device neutral and user friendly app that has made information on conduct of business in Legislatures accessible anytime, anywhere to everyone.
- It is a work-flow based app deployed in Cloud (Meghraj) which helps the Chair of the House to conduct the proceedings of the House smoothly and the members to carry out their duties in the House efficiently.
- NeVA has made live for Rajya Sabha in respect of Monsoon Session 2018 and information in respect of Lok Sabha is being updated.

e-Vidhan Project:

e-Vidhan is a Mission Mode Project to digitize and make the functioning of State Legislatures paperless. This is part of Digital India programme. It is to be used by the Legislatures as well as all the Government Departments.

Gorkha Issue:

Context:

Ministry of Home Affairs has issued a clarification to the Government of Assam on the citizenship status of members of the Gorkha Community living in the State as per the Foreigners Act, 1946.



Current Affairs from 1st Oct – 21st Oct 2018

What's the issue?

Recently, some cases of members of Gorkha community living in Assam were referred to the Foreigners Tribunals. Following this, a representation from the All Assam Gorkha Students' had approached the Union Home Minister Shri Rajnath Singh to solve the issue.

Directions by the Centre:

In a communication to the Government of Assam, MHA has listed various provisions to obviate the difficulties faced by Gorkhas in the matter of Indian citizenship. These include:

- The members of the Gorkha community who were Indian citizens at the time of commencement of the Constitution, or those who are Indian citizens by birth, or those who have acquired Indian citizenship by registration or naturalization in accordance with the provisions of The Citizenship Act, 1955 are not "foreigners" in terms of section 2 (a) of The Foreigners Act, 1946 as well as The Registration of Foreigners Act, 1939, therefore, such cases will not be referred to the Foreigners Tribunals.
- Any member of the Gorkha community holding Nepalese nationality and who has arrived in India by land or air over the Nepal border even without a passport or visa and staying in India for any length of time shall not be treated as an illegal migrant if he/she is in possession of any of the identity documents namely the Nepalese Passport, Nepalese Citizenship Certificate, voter Identification card issued by the Election Commission of Nepal, limited validity photo-identity certificate issued by Nepalese Mission in India when deemed necessary and for children between age group of 10-18 years, photo ID issued by the principal of the school, if accompanied by parents having valid travel documents.
- No such document is required for children below the age group of 10 years, the communication added citing provisions of India-Nepal Treaty signed in 1950.

Exempt from Foreigner Tribunals:

- The cases of members of Gorkha community falling within the parameters shall not be referred to the Foreigner Tribunals for opinion as to whether the person is a "foreigner" within the meaning of The Foreigners Act, 1946.



Current Affairs from 1st Oct – 21st Oct 2018

- Only those individuals, who have come from specified territories i.e. territories included in Bangladesh immediately before commencement of the Citizenship (Amendment) Act, 1985, to the State of Assam, and are not Indian citizens, can be referred to the Foreigners tribunals.

About National Register of Citizens (NRC)?

The NRC was introduced to identify illegal immigrants from Bangladesh and recognise the Indian citizens in Assam. It was first prepared in 1951 and Assam is the only state having this arrangement.

Prison reforms

Why in News?:

The Supreme Court has constituted a three-member committee to look into the problems of jails in India and suggest reform measures.

The committee headed by former SC judge Justice Amitava Roy will look into the aspect of jail reforms across the country and suggest measures to deal with them.

Terms of reference:

- The committee's duties will include looking into the problems of jails across the country including overcrowding in prisons, issue of human rights of prisoners and issues concerning women prisoners languishing in cells for years.
- After studying the problems, the committee would be required to suggest measures to deal with them.

Background:

The Supreme Court had said on August 8, 2018 that it would constitute a committee under the chairmanship of its retired judge to look into the problems in jails, on a day-to-day basis and suggest measures to tackle the problems. The SC had expressed its displeasure saying that the government had collected a huge amount under the orders of the apex court but the funds were not being utilised properly.



Current Affairs from 1st Oct – 21st Oct 2018

Need for reforms:

- NHRC figures show that prisoners cut off from family and friends had a 50% more chance of committing suicide than those outside. The average suicide rate among the general public for this period is 11 (per 100,000) whereas the average suicide rate in prison is 16.9 (per 100,000). In other words, the average suicide rate in prisons is over 50% more than in normal conditions.
- Indian prisons face three long-standing structural constraints: overcrowding, thanks to a high percentage of undertrials in the prison population, understaffing and underfunding. The inevitable outcome is sub-human living conditions, poor hygiene, and violent clashes between the inmates and jail authorities.
- Besides, while 33% of the total requirement of prison officials still lies vacant, almost 36% of vacancy for supervising officers is still unfulfilled. In the absence of adequate prison staff, overcrowding of prisons leads to rampant violence and other criminal activities inside the jails.

Defence Acquisition Council (DAC)

Why in News?:

DAC has approved Procurement of Equipment Worth Rs 9,100 Crores.

DAC has approved procurement of- Akash Missile systems and IUWBA:

Akash Missile Systems: The Missile to be procured is an upgraded version of the previously inducted Akash missiles and will include seeker technology, possess 360 degree coverage and will be of compact configuration with reduced signature. The upgraded Akash Weapon System is operationally critical equipment which will provide protection to vital assets.

The DAC also accorded approval for progressing Design and Development of Individual Under Water Breathing Apparatus (IUWBA) for T 90 Tanks. Developed by DRDO Lab DEBEL, the IUWBA is used by the crew of Tanks as a safety gear and is required by the Tank crew for emergency escape when negotiating water obstacles while deep fording.



Current Affairs from 1st Oct – 21st Oct 2018

Defence Acquisition Council (DAC):

What is it? To counter corruption and speed up decision-making in military procurement, the government of India in 2001 decided to set up an integrated DAC. It is headed by the Defence Minister.

Objective: The objective of the DAC is to ensure expeditious procurement of the approved requirements of the Armed Forces, in terms of capabilities sought, and time frame prescribed, by optimally utilizing the allocated budgetary resources.

Functions: The DAC is responsible to give policy guidelines to acquisitions, based on long-term procurement plans. It also clears all acquisitions, which includes both imported and those produced indigenously or under a foreign license.

Centre for the Fourth Industrial Revolution

Why in News?:

The World Economic Forum has announced its new Centre for the Fourth Industrial Revolution in India, which would aim to bring together the government and business leaders to pilot emerging technology policies.

About the Centre for the Fourth Industrial Revolution:

- The centre would be based in Maharashtra and it has selected drones, artificial intelligence and blockchain as the first three project areas.
- It will work in collaboration with the government on a national level to co-design new policy frameworks and protocols for emerging technology alongside leaders from business, academia, start-ups and international organizations.
- NITI Aayog will coordinate the partnership on behalf of the government and the work of the centre among multiple ministries. The WEF has also entered into partnerships with the Maharashtra and Andhra Pradesh governments for the new initiative and more states would be roped in going forward.
- Projects will be scaled across India and globally. As part of the WEF's global network, the new centre in India will work closely with project teams in San Francisco, Tokyo and Beijing, where such Centres are already present.



Current Affairs from 1st Oct – 21st Oct 2018

What is Fourth Industrial Revolution?

As described by the founder and executive chairman of WEF, Klaus Schwab, “the fourth industrial revolution is a technological revolution that will fundamentally alter the way we live, work and relate to one another”.

Background:

1st industrial revolution: The first Industrial Revolution began in Britain in the last quarter of the 18th century with the mechanisation of the textile industry, harnessing of steam power, and birth of the modern factory.

2nd industrial revolution: The Second Industrial Revolution, from the last third of the nineteenth century to the outbreak of World War I, was powered by developments in electricity, transportation, chemicals, steel, and mass production and consumption. Industrialization spread even further – to Japan after the Meiji Restoration and deep into Russia, which was booming at the outset of World War I. During this era, factories could produce countless numbers of identical products quickly and cheaply.

3rd industrial revolution: The third industrial revolution, beginning c. 1970, was digital — and applied electronics and information technology to processes of production. Mass customisation and additive manufacturing — the so-called ‘3D printing’ — are its key concepts, and its applications, yet to be imagined fully, are quite mind-boggling.

How different will be the 4th industrial revolution?

There are three reasons why today’s transformations represent not merely a prolongation of the Third Industrial Revolution but rather the arrival of a Fourth and distinct one: velocity, scope, and systems impact.

- The speed of current breakthroughs has no historical precedent. When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace.
- Moreover, it is disrupting almost every industry in every country. And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance.
- The 4th revolution will be characterized by the advent of cyber-physical systems which, while being reliant on the technologies and infrastructure of



Current Affairs from 1st Oct – 21st Oct 2018

the third industrial revolution, represent entirely new ways in which technology becomes embedded within societies and even our human bodies. Examples include genome editing, new forms of machine intelligence, and breakthrough approaches to governance that rely on cryptographic methods such as blockchain.

- Hence, it can be said that the 4th industrial revolution is conceptualised as an upgrade on the third revolution and is marked by a fusion of technologies straddling the physical, digital and biological worlds.

Zika virus

Why in News?:

Union Ministry of Health and Family Welfare has confirmed cases of Zika virus in Rajasthan's capital Jaipur. It was detected through Indian Council of Medical Research (ICMR) surveillance system.

Following this, the Health Ministry has taken precautionary measures:

- It has activated control room at National Centre for Disease Control (NCDC) to undertake regular monitoring of the situation.
- A Central team also has been deputed to Jaipur. State government also has been supplied with IEC material prepared to create awareness about zika virus disease and its prevention strategies.
- Extensive surveillance and vector control measures are also being undertaken in area as per protocol by the state government.

What is Zika Virus?

Zika virus is similar to dengue fever, yellow fever and West Nile virus. Carried by infected *Aedes aegypti* mosquitos, Zika is largely transmitted through bites, but can also occur through intrauterine infection.

- It was first identified in 1947 in Zika Forest, Uganda from where it derives its name.
- If a woman is bitten by an infected mosquito and becomes infected, Zika can cross into the placenta and affect the fetus. While anyone can contract Zika, pregnant women are the most at risk due to the potential for fetal microcephaly and other neurologic abnormalities.



Current Affairs from 1st Oct – 21st Oct 2018

- Symptoms include fever, headache, red eyes, skin rash, fatigue, muscle pain etc.

Treatment and Prevention: There is no specific treatment or vaccine currently available to treat Zika. The best form of prevention is protection against mosquito bites and clearing stagnant water where mosquitoes breed.

Pradhan Mantri Fasal Bima Yojna (PMFBY)

Why in News?:

Government has modified operational guidelines for Pradhan Mantri Fasal Bima Yojna (PMFBY). The new operational guidelines come at the onset of the rabi season, which starts from 1st of October.

Modified guidelines:

- Provision of penalties for States and Insurance Companies for the delay in settlement of insurance claims has been incorporated.
- There is a Standard Operating Procedure for evaluation of insurance companies and remove them from the scheme if found ineffective in providing services.
- The Government has also decided to include perennial horticultural crops under the ambit of PMFBY on a pilot basis.
- The scheme, as per the new operational guidelines provides add on coverage for crop loss due to attack of wild animals, which will be implemented on a pilot basis.
- Aadhaar number will be mandatorily captured to avoid duplication of beneficiaries.
- The insurance companies are given a target of enrolling 10% more non-loanee farmers than the previous corresponding season.
- The insurance companies will have to mandatorily spend 0.5% of gross premium per company per season for publicity and awareness of the scheme.

Significance:

- The new operational guidelines address the current challenges faced while implementing the scheme by putting forth effective solutions.



Current Affairs from 1st Oct – 21st Oct 2018

- The much demanded rationalization of premium release process has been incorporated in the new guidelines. As per this, the insurance companies need not provide any projections for the advance subsidy.

About PMFBY:

In April, 2016, the government of India had launched Pradhan Mantri Fasal Bima Yojana (PMFBY) after rolling back the earlier insurance schemes viz.

National Agriculture Insurance Scheme (NAIS), Weather-based Crop Insurance scheme and Modified National Agricultural Insurance Scheme (MNAIS).

- Premium: It envisages a uniform premium of only 2% to be paid by farmers for Kharif crops, and 1.5% for Rabi crops. The premium for annual commercial and horticultural crops will be 5%.
- The scheme is mandatory for farmers who have taken institutional loans from banks. It's optional for farmers who have not taken institutional credit.

Objectives:

- Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events.
- Stabilizing the income of farmers to ensure their continuance in farming.
- Encouraging farmers to adopt innovative and modern agricultural practices.
- Ensuring flow of credit to the agriculture sector which contributes to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

Atal Bimit Vyakti Kalyan Yojna

Why in News?:

The Employee's State Insurance (ESI) has approved a scheme named 'Atal Bimit Vyakti Kalyan Yojna' for Insured Persons (IP) covered under the Employees' State Insurance Act, 1948.

About Atal Bimit Vyakti Kalyan Yojna:



Current Affairs from 1st Oct – 21st Oct 2018

- Aim: It aims to financially support those who lost their jobs or rendered jobless for whatsoever reasons due to changing employment pattern.
- Its beneficiaries will be insured persons covered under Employees' State Insurance Act, 1948 for period of two years continuously.

Key features:

Cash assistance: Under the scheme, relief will be payable in cash directly to bank account of insured persons in case of unemployment. This financial assistance will be given to insured persons even while they search for new engagement. Beneficiary insured workers will be paid money, from their own contribution towards ESI scheme, in cash through bank account transfer.

Under this scheme, workers will be able to draw 47% of their total contributions towards ESIC after remaining unemployed for at least three months from date of leaving their previous jobs. They can choose to receive the cash at one go or in instalments. It will be applicable to all factories and establishments employing at least 10 workers.

About ESI:

- ESI is self-financing social security and health insurance scheme for Indian workers.
- It is autonomous corporation by statutory creation under Ministry of Labour and Employment, Government of India.
- It is managed by Employees' State Insurance Corporation (ESIC) according to rules and regulations stipulated there in the ESI Act 1948.

Asian Development Bank (ADB)

Why in News?:

The Asian Development Bank (ADB) and the Government of India have signed a \$150 Million Loan to finance continued improvements to road connectivity and efficiency of the International Trade Corridor in West Bengal and North-Eastern Region of India.

- South Asia Sub-regional Economic Cooperation Road Connectivity Investment Program, approved in 2014, aims to expand about 500 kilometers of roads in



Current Affairs from 1st Oct – 21st Oct 2018

India's North Bengal and North-Eastern Region that will enable efficient and safe transport within India and regionally with other SASEC member countries.

- The Program is an important initiative in Regional Connectivity aimed at increasing domestic and regional trade through North Bengal-North East Region International Trade corridor by upgrading key roads.

Significance of the project:

- The Project will upgrade about 65 kilometers of Imphal-Moreh Section of National Highway in Manipur, construction of about 1.5 km of an international bridge between India and Nepal, and completion of about 103 km of a State Highway in Manipur between Imphal and Tamenglong under Project-I.
- The Project will reduce transaction costs along the targeted cross-border corridors substantially, creating economies of scale and commercial prosperity.

Background:

Manipur being a landlocked state with almost 90% of the area under difficult terrain presently has only road transport as a means of mass transport system within the state. Hence development of the road infrastructure is of paramount importance to improve connectivity and progress of the State and to ensure that the administrative set up reaches the isolated and remote habitats.

About SASEC:

- The SASEC programme of ADB was formed in 2001 in response to the request of Bangladesh, Bhutan, India and Nepal to assist in facilitating economic cooperation among them. Sri Lanka and Maldives joined the sub-regional group in 2014.
- As a project-based partnership, SASEC programme has been helping enhance cross-border connectivity, facilitate faster and more efficient trade and promote cross-border power trade.
- The Manila, Philippines-based Asian Development Bank (ADB) serves as the Secretariat for the SASEC member countries.



Current Affairs from 1st Oct – 21st Oct 2018

Udyam Abhilasha

What is it?

It is a National Level Entrepreneurship Awareness Campaign launched by Small Industries Development Bank of India (SIDBI) on the occasion of Birth Anniversary of Mahatma Gandhi.

The campaign has been launched in 115 Aspirational Districts identified by NITI Aayog in 28 States.

About the Campaign:

- The campaign would create and strengthen cadre of more than 800 trainers to provide entrepreneurship training to the aspiring youths across these districts thus encouraging them to enter the admired segment of entrepreneurs.
- SIDBI has partnered with CSC e-Governance Services India Limited, a Special Purpose Vehicle, (CSC SPV) set up by the Ministry of Electronics & IT, Govt. of India for implementing the campaign through their CSCs.

The objectives of the missionary campaign include:

- To inspire rural youth in aspirational districts to be entrepreneurs by assisting them to set up their own enterprise.
- To impart trainings through digital medium across the country.
- To create business opportunities for CSC VLEs.
- To focus on women aspirants in these aspirational districts to encourage women entrepreneurship.
- To assist participants to become bankable and avail credit facility from banks to set up their own enterprise.

About SIDBI:

Small Industries Development Bank of India (SIDBI) was set up on 2nd April 1990 under an Act of Parliament.



Current Affairs from 1st Oct – 21st Oct 2018

It acts as the Principal Financial Institution for Promotion, Financing and Development of the Micro, Small and Medium Enterprise (MSME) sector as well as for co-ordination of functions of institutions engaged in similar activities.

Multidimensional Poverty Index 2018

Why in News?:

The United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI) have released the 2018 Multidimensional Poverty Index (MPI).

About Multidimensional Poverty Index (MPI):

- The MPI provides the most comprehensive view of the various ways in which 1.3 billion people worldwide experience poverty in their daily life.
- The MPI looks at the multifaceted nature of poverty. It identifies people's deprivations across three key dimensions – health, education and living standards, lacking amenities such clean water, sanitation, adequate nutrition or primary education. Those who are left behind in at least a third of the MPI's components are defined as multidimensionally poor.

How is the global MPI2018 aligned with the Sustainable Development Goals?

- Rather than viewing challenges one by one, in silos, the MPI shows how deprivations related to SDGs 1,2,3,4,6,7, and 11 are concretely interlinked in poor people's lives. Rather than providing only national headlines, the global MPI is disaggregated by subnational region, area, ethnicity, or age cohort.
- The indicators underlying the global MPI 2018 have been revised to better align with the SDGs.

Performance of India:

- India has made giant strides in reducing multidimensional poverty, bringing down its poverty rate from 55% to 28% in ten years.
- Between 2005-06 and 2015-16, more than 271 million people have come out of the clutches of poverty in India. However, India still has the largest number of people living in multidimensional poverty in the world- around 364 million



Current Affairs from 1st Oct – 21st Oct 2018

people. 156 million out of 364 million people who are MPI poor in 2015/2016 are children.

- India's scale of poverty reduction has parallels with the phenomenal level of poverty reduction achieved in China a decade or so earlier. India's scale of multidimensional poverty reduction over the decade from 2005/6 to 2015/16 – from 635 million poor persons to 364 million – can be compared to the speedy pace of China's poverty reduction, which occurred over more than 20 years.
- Across nearly every state, poor nutrition is the largest contributor to multidimensional poverty. Not having a household member with at least six years of education is the second largest contributor. Insufficient access to clean water and child mortality contribute least.

State- wise data:

- Among states, Jharkhand had the greatest improvement, with Arunachal Pradesh, Bihar, Chhattisgarh, and Nagaland only slightly behind. However, Bihar is still the poorest state in 2015/16, with more than half of its population in poverty.
- In 2015/16, the four poorest states – Bihar, Jharkhand, Uttar Pradesh, and Madhya Pradesh – were still home to 196 million MPI poor people – over half of all the MPI poor people in India. Delhi, Kerala and Goa have the lowest incidence of multidimensional poverty.

India's relative performance:

- Among the South Asian countries, only Maldives boasts lower MPI of 0.007 than India (0.121). Nepal, Bangladesh, Pakistan, Bhutan and Afghanistan all boast higher incidences of multidimensional poverty.
- After India (364 million people), the countries with the largest number of people living in multi-dimensional poverty are Nigeria (97 million), Ethiopia (86 million), Pakistan (85 million), and Bangladesh (67 million).

Global performance:

- The global MPI covers 105 countries in total, home to 75% of the world's population, or 5.7 billion people. Of this proportion, 1.3 billion are identified as multidimensionally poor, and half of them are younger than 18 years old.



Current Affairs from 1st Oct – 21st Oct 2018

- 83% of the world's poor live in South Asia and Africa. The latest data further reveals the vast majority of the multidimensional poor – 1.1 billion people – live in rural areas around the world, where poverty rates are four times higher than among those living in urban areas.

Deal replacing NAFTA signed

Why in News?:

Canada has agreed to sign a trade deal with the United States and Mexico, revamping the North American Free Trade Agreement after almost a year of negotiations. The new deal has been named the United States-Mexico-Canada Agreement (USMCA).

- The trilateral pact is expected to be signed by the three North American countries before the end of November, after which it would be submitted to Congress.

About United States-Mexico-Canada Agreement (USMCA):

It's basically NAFTA 2.0, with major changes on cars and new policies on labor and environmental standards, intellectual property protections, and some digital trade provisions. The changes include:

- Country of origin rules: Automobiles must have 75% of their components manufactured in Mexico, the US, or Canada to qualify for zero tariffs (up from 62.5 percent under NAFTA).
- Labor provisions: 40 to 45 percent of automobile parts have to be made by workers who earn at least \$16 an hour by 2023. Mexico has also agreed to pass laws giving workers the right to union representation, extend labor protections to migrant workers, and protect women from discrimination. The countries can also sanction one another for labor violations.
- US farmers get more access to the Canadian dairy market: The US got Canada to open up its dairy market to US farmers, which was a big issue for Trump.
- Intellectual property and digital trade: The deal extends the terms of copyright to 70 years beyond the life of the author (up from 50). It also extends the period that a pharmaceutical drug can be protected from generic competition.



Current Affairs from 1st Oct – 21st Oct 2018

- It also includes new provisions to deal with the digital economy, including prohibiting duties on things like music and e-books, and protections for internet companies so they're not liable for content their users produce.
- Sunset clause: The agreement puts in a 16-year "sunset" clause — meaning the terms of the agreement expire, or "sunset," after a set period of time. The deal is also subject to a review every six years, at which point the US, Mexico, and Canada can decide to extend USMCA.

What is NAFTA?

NAFTA is the initialism for the North American Free Trade Agreement, an agreement signed by Canada, Mexico, and the United States that reduced or eliminated trade barriers in North America. (Since the U.S. and Canada already had a free trade agreement (signed in 1988), NAFTA merely brought Mexico into the trade bloc.)

Negotiations for the trade agreement began in 1990 under the administration of George H.W. Bush and were finalized under Bill Clinton's presidency in 1993. The agreement went into effect on January 1, 1994.

What was the purpose of NAFTA?

- In 1993 the European Union (EU) created a "single market"—one territory without any internal borders or other regulatory obstacles to the free movement of goods and services. This allowed every country and business in the EU to have access to more than 500 million consumers.
- NAFTA, which was approved that same year, was designed to have a similar effect, providing a way to allow the exchange of goods and services to flow more freely across national borders without the artificial restrictions.
- NAFTA provided for progressive elimination of all tariffs on any goods qualifying as North American. The deal also sought to protect intellectual property, establish dispute-resolution mechanisms, and, through corollary agreements, implement labor and environmental safeguards.

Why is NAFTA controversial?

NAFTA was controversial when first proposed, mostly because it was the first [free trade agreement] involving two wealthy, developed countries and a developing country. Some people felt that allowing free trade with a developing country



Current Affairs from 1st Oct – 21st Oct 2018

provides an incentive for U.S.-based business to move their operations to that country.

Since its implementation NAFTA has remained a prime target of trade protectionists (those who advocate taking measures such as taxing imports to “protect” domestic industries from foreign competition).

Cyclone-30

Why in News?:

The country’s biggest cyclotron facility that will produce radioisotopes vital for diagnosis and treatment of cancer has become operational.

Key facts:

- The machine – Cyclone-30 — is housed at the Kolkata-based Variable Energy Cyclotron Centre (VECC) under the Department of Atomic Energy (DAE) and will start regular production by mid-next year after supporting nuclear systems are commissioned and regulatory clearances are obtained.
- This facility will provide for affordable radio isotopes and related radiopharmaceuticals for the entire country especially, for eastern India and also have export potential for Germanium-68 and Gallium-68 generator for in-situ production of Gallium-68 and Palladium-103 isotopes, used for breast cancer diagnosis and prostate cancer treatment, respectively.

Significance:

- With increasing number of Indians diagnosed with cancer every year, the cyclotron machine will produce radioisotopes for nuclear imaging specifically for cancer detection.
- At present, many radioisotopes are imported while some are produced in nuclear research reactors such as the Apsara at the Bhabha Atomic Research Centre (BARC), and remaining in cyclotrons facilities run by large private hospitals. The addition of Cyclone-30 will increase the availability of radioisotopes and bring down the cost of treatment.



Current Affairs from 1st Oct – 21st Oct 2018

What are Cyclotrons?

Cyclotrons are used to produce radioisotopes for diagnostic and therapeutic use for cancer care. Radiations from these isotopes are used to destroy cancer cells.

National Policy on Electronics 2018'

Context:

Union Ministry of Electronics and Information Technology (MeitY) has issued draft 'National Policy on Electronics 2018' (NPE 2018) for Electronics System Design and Manufacturing (ESDM) Sector of India.

Highlights of the policy:

Aim:

To promote domestic manufacturing in entire value-chain of ESDM sector for spur economic development in the country. It also aims to double the target of mobile phone production from 500 million units in 2019 to 1 billion by 2025 to meet objective.

Target: Create \$400 billion electronics manufacturing industry by 2025, with mobile phone devices segment accounting for three-fourths of production. It also includes targeted production of 1 billion mobile handsets by 2025, valued at \$190 billion (approximately Rs. 13 lakh crore) and also 600 million mobile handsets valued at \$110 billion (approximately Rs. 7 lakh crore) for export.

Incentives: It replaces existing incentive schemes like Modified Special Incentive Package Scheme (M-SIPS), with schemes that are easier to implement such as interest subsidy and credit default guarantee etc. It also takes into consideration interest subsidy and credit default guarantee in order to encourage new units and in expansion of existing units in electronics manufacturing sector.

It also proposes to push development of core competencies in all sub-sectors of electronics including electronic components and semiconductors, automotive electronics, defence electronics, industrial electronics, strategic electronics etc. It also proposes to set up 20 greenfield and three brownfield electronic manufacturing



Current Affairs from 1st Oct – 21st Oct 2018

cluster projects have been sanctioned with project outlay of Rs 3,898 crore, including Rs 1,577 crore from Central Government.

Tax benefits:

- It proposes suitable direct tax benefits, including inter-alia investment-linked deduction under Income Tax (IT) Act for electronics manufacturing sector, for setting up of new manufacturing unit or expansion of an existing unit.
- The proposal includes increasing tax benefits on expenditure incurred on R&D, enhancing rate of duty drawback for electronics sector, reimbursement of state levies and other levies for which input tax credit is not available, allowing duty free import of second-hand capital goods for electronics hardware manufacturing etc.
- It also proposes cess on select electronic goods resources to promote certain critical sub-sectors of electronic manufacturing such as semiconductor wafer fabrication and display fabrication units.

National Digital Communications Policy-2018

Why in News?:

The Union Cabinet has approved the National Digital Communications Policy-2018 (NDCP-2018) and re-designation of the Telecom Commission as the “Digital Communications Commission”.

Impact:

- The NDCP-2018 envisions supporting India’s transition to a digitally empowered economy and society by fulfilling the information and communications needs of citizens and enterprises by establishment of a ubiquitous, resilient and affordable digital communications infrastructure and services.
- The ‘Customer focused’ and ‘application driven’ NDCP-2018 shall lead to new ideas and innovations, after the launch of advanced technology such as 5G, IOT, M2M, etc. which shall govern the telecom sector of India.

The key objectives of the policy are:

- Broadband for all.



Current Affairs from 1st Oct – 21st Oct 2018

- Creating four million additional jobs in the Digital Communications sector.
- Enhancing the contribution of the Digital Communications sector to 8% of India's GDP from ~ 6% in 2017.
- Propelling India to the Top 50 Nations in the ICT Development Index of ITU from 134 in 2017.
- Enhancing India's contribution to Global Value Chains.
- Ensuring Digital Sovereignty.
- These objectives are to be achieved by 2022.

The policy aims to:

- Provide universal broadband connectivity at 50 Mbps to every citizen.
- Provide 1 Gbps connectivity to all Gram Panchayats by 2020 and 10 Gbps by 2022.
- Ensure connectivity to all uncovered areas.
- Attract investments of USD 100 billion in the Digital Communications Sector.
- Train one million manpower for building New Age Skill.
- Expand IoT ecosystem to 5 billion connected devices.
- Establish a comprehensive data protection regime for digital communications that safeguards the privacy, autonomy and choice of individuals.
- Facilitate India's effective participation in the global digital economy.
- Enforce accountability through appropriate institutional mechanisms to assure citizens of safe.
- Secure digital communications infrastructure and services.

The policy advocates:

- Establishment of a National Digital Grid by creating a National Fibre Authority.
- Establishing Common Service Ducts and utility corridors in all new city and highway road projects.
- Creating a collaborative institutional mechanism between Centre, States and Local Bodies for Common Rights of Way, standardization of costs and timelines.
- Removal of barriers to approvals.
- Facilitating development of Open Access Next Generation Networks.



Current Affairs from 1st Oct – 21st Oct 2018

GI Tag for Alphonso from Konkan

Why in News?:

Alphonso from Ratnagiri, Sindhudurg, Palghar, Thane and Raigad districts of Maharashtra, is registered as Geographical Indication (GI).

- The king of mangoes, Alphonso, better known as 'Hapus' in Maharashtra, is in demand in domestic and international markets not only for its taste but also for pleasant fragrance and vibrant colour. It has long been one of the world's most popular fruit and is exported to various countries including Japan, Korea and Europe. New markets such as USA and Australia have recently opened up.

About GI tag:

What is it?

A GI is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.

Significance of a GI tag:

Typically, such a name conveys an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.

Security:

Once the GI protection is granted, no other producer can misuse the name to market similar products. It also provides comfort to customers about the authenticity of that product.

Provisions in this regard:

- GI is covered as element of intellectual property rights (IPRs) under Paris Convention for Protection of Industrial Property.
- At international level, GI is governed by WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).



इशोइशा
IAS ACADEMY
Your Dreams, Our Mission!

Current Affairs from 1st Oct – 21st Oct 2018

- In India, Geographical Indications of Goods (Registration and Protection Act), 1999 governs it.