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**JANUARY-1 2018**

## **General Studies-01**

### **Cold wave sweeps across north India**

**News:** A piercing cold wave swept across the hilly States in north India even as a blanket of fog covered the plains, hampering the movement of air, rail and road traffic.

#### **Beyond News:**

- The mercury continued its downward spiral in Jammu and Kashmir.
- Leh in the Ladakh region braved the coldest night so far this year at minus 15.2 degrees Celsius.

#### **Cold wave:**

- A **cold wave**(known in some regions as a **cold snap**) is a weather phenomenon that is distinguished by a cooling of the air.
- Specifically, as used by the U.S. National Weather Service, a cold wave is a rapid fall in temperature within a 24-hour period requiring substantially increased protection to agriculture, industry, commerce, and social activities.
- The precise criterion for a cold wave is determined by the rate at which the temperature falls, and the minimum to which it falls. This minimum temperature is dependent on the geographical region and time of year.



## **General Studies-02**

### **'16 children go missing every day'**

**News:** Every day, an average of 16 children are reported missing in the Capital, according to Delhi Police data.

#### **Beyond News:**

- This number is despite efforts made by the police through its various programmes like '**Operation Smile**', '**Operation Milap**', and '**Operation Muskaan**' aimed at reuniting missing children with their families.

- The success rate of such programmes is in question as of the missing kids who were eventually found this year, 66% returned on their own.
- The **Delhi** police have reunited 2,658 children who were reported missing from other States and were staying in Delhi, working as rag pickers, beggars, or in factories.
- All traced children are also produced in counselling centres to assess the reason behind them going missing. In some cases parents are also counselled.
- The police said that they have special units in every district and have **anti-human trafficking unit (AHTU)** under the crime branch.

**Reasons:** During several investigations of such missing cases, the police found that the main reasons for children running away were **academic pressure, elopement, job opportunities, or because they were scolded by parents.**

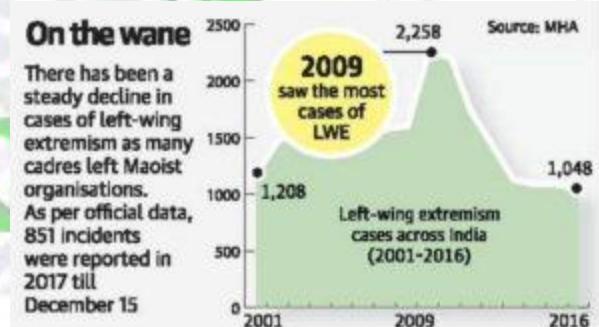
## General Studies-03

### Incidents of Maoist violence reduce in 2017, govt. data show

**News:** For the first time in more than a decade, in 2017 the incidents in left-wing extremism (LWE) affected States remained below the 1,000 mark.

#### **Findings from the Data:**

- According to Home Ministry data, 851 incidents were reported till December 15 in 2017, compared to 1016 incidents during the corresponding period last year. The total number of incidents in 2016 was 1048.
- The violent incidents in the 10 LWE-affected States have always been above the 1,000 mark, with 2,258 the maximum number of incidents reported in 2009.
- The Border Security Force (BSF) deployed for anti-Maoist operations apart from the Central Reserve Police Force (CRPF) established base at four new locations in Odisha and Chhattisgarh.
- A senior Home Ministry official said the top Maoist leadership was ageing and many suffered from ailments.



The recruitments were also at an all-time low as security forces had penetrated many territories in the past decade.

### Nanogenerators go wireless

**News:** Scientists from Clemson University, U.S. have developed a new triboelectric nanogenerator that can generate over 2,000 volts just by tapping on it and also wirelessly transfer the energy produced to a nearby battery.



## Beyond News

- The scientists say that this is the first time wireless transmission of electrical energy has been achieved. It is also the first time a triboelectric nanogenerator has been directly 3D printed from biodegradable materials.
- The nanogenerator harvests mechanical energy and converts into electrical energy and transferred wirelessly over a distance of three metres to a storage device like capacitor or battery.

## Application of the Generator

- We can install the nanogenerator at airports, sidewalks and place the battery on the nearby walls to store the energy. Because there are no wires involved, there is no need of power outlets and can be installed easily.
- These generators have a wide range of applications. They can be used to light up our homes, control doors and even set burglar alarms. The scientists are now working on developing fingerprint sensitive generators for home-security applications.

## NASA's 2018 to do list includes mission to 'touch' Sun

**News:** NASA is turning 60 in 2018 and the agency is looking forward to launching a slew of important missions in the coming year, including one to “touch” the Sun.

## Beyond News:

- NASA's Parker Solar Probe is scheduled for launch in 2018 to explore the Sun's outer atmosphere.
- The spacecraft will fly through the Sun's atmosphere as close as 6.2 million kilometres, well within the orbit of Mercury and closer than any spacecraft has gone before.
- The primary science goals for the mission are to trace how energy and heat move through the solar corona and to explore what accelerates the solar wind as well as solar energetic particles.

## Other Missions:

- The US space agency's first asteroid sample return mission, OSIRIS-REx, is scheduled to arrive at the near-Earth asteroid Bennu in August 2018, and will return a sample for study in 2023.
- Launching no later than June 2018, the Transiting Exoplanet Survey Satellite (TESS) will search for planets outside our solar system by monitoring 200,000 bright, nearby stars.
- To continue the long-term record of how Earth's ice sheets, sea level, and underground water reserves are changing, NASA will also launch the next generation of two missions — ICESat-2 and GRACE Follow-On — in 2018.

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**JANUARY-2 2018**

## **General Studies-02**

### **China develops underwater surveillance networks in Indian Ocean, SCS**

**News:** China has developed a **new underwater surveillance network** to help its submarines get a stronger lock on targets while protecting the nation's interests along the maritime Silk Road, which included the Indian Ocean.

#### **Beyond News:**

- The system, which has already been launched, works by gathering information about the underwater environment, particularly water temperature and salinity, which the navy can then use to more accurately track target vessels as well as improve navigation and positioning.
- The project, led by the **South China Sea Institute of Oceanology** under the Chinese Academy of Sciences (CAS), is part of an unprecedented military expansion fuelled by Beijing's desire to challenge the US in the world's oceans.
- In recent years, China has stepped up naval expeditions to the Indian Ocean to **fight the pirates in Gulf of Aden**.
- These expeditions included large naval ships accompanied by submarines. China is silent about the reasons to deploy submarines for anti-piracy operations.
- China is also seeking to establish logistic bases in the Indian Ocean, much to the chagrin of India.



### **U.S. has drastically cut aid to Pakistan**

**News:** US President Donald Trump's New Year tweet is indicative that his administration is not satisfied by Pakistan's response on terror.

#### **Beyond News:**

- The U.S. has also made disbursement of Pentagon's Coalition Support Funds (CSF) conditional.
- CSF pertains to reimbursement to Pakistan for its logistical and operational support for U.S.-led military operations.

- The defence budget for 2018 reduced the CSF allocation to \$700 million and tied half of it to action against the Haqqani Network.
- A recent congressional move to include Lashkar-e-Taiba also in the same category of certification requirement was dropped after the Pentagon resisted it.

### India, Pakistan exchange list of nuclear installations

**News:** India and Pakistan exchanged, through diplomatic channels simultaneously at New Delhi and Islamabad, the list of nuclear installations and facilities under a three-decade old bilateral pact.

#### **Beyond News:**

- According to an External Affairs Ministry release, the two sides exchanged the list under the Agreement on the Prohibition of Attack against Nuclear Installations between India and Pakistan.
- The agreement, which was signed on December 31, 1988, and entered into force on January 27, 1991, provides that the two countries inform each other of nuclear installations and facilities to be covered under the pact on the first of January of every calendar year.
- This is the twenty seventh consecutive exchange of such a list between the two countries, the first one having taken place on January 1, 1992.

### General Studies-03

### Nagaland declared as 'disturbed area' for 6 more months

**News:** The entire Nagaland has been declared as “disturbed area” for six more months, till June-end, under the controversial AFSPA, which empowers security forces to conduct operations anywhere and arrest anyone without any prior notice.

#### **Beyond News:**

- In a gazette notification, the Union Home Ministry said it is of the opinion that the area comprising the whole of Nagaland is in such a “disturbed and dangerous condition” that use of armed forces in aid of the civil power is necessary.
- The notification said that, now in exercise of the powers conferred by Section 3 of the Armed Forces (Special Powers) Act, 1958 (No. 28 of 1958), the central government declares that whole of the said State to be a ‘disturbed area’ for a period of six months with effect from December 30, 2017 for the purpose of that Act.

**Reason:** A home ministry official said the decision to continue the declaration of Nagaland as “disturbed area” has been taken as killings, loot and extortion have been going in various parts of the state which necessitated the action for the convenience of the security forces operating there.



## Parliamentary panel bats for setting up cybercrime nodal agency

**News:** A parliamentary panel asserted that the IT Ministry should set up a cybercrime nodal agency or helpline that would assist and guide victims in dealing with such incidents.

### **Beyond News:**

- The Parliamentary Standing Committee on Information Technology, in its report, noted that there is no separate mechanism for dealing with cases of cybercrime in India.
- The Electronics and IT Ministry (MeitY) had noted that the Home Affairs Ministry is setting up a centralised portal for cybercrime against women and children.
- For cyber security incidents like phishing, hacking, scanning, spoofing and malware attacks, CERT-In can be approached.
- Setting-up such an agency could also help in dissemination of information to the victims about the appropriate agency to approach and also guide them on the next course of action.



## NASA's flying telescope to study Saturn's moon

**News:** NASA has said its flying observatory **Sofia** ( Stratospheric Observatory for Infra-red Astronomy) is preparing for its 2018 campaign, which will include, among others, observations of celestial magnetic fields, star-forming regions, comets and Saturn's giant moon Titan.

### **Beyond News:**

- This will be the fourth year of full operations for Sofia, with observations planned between February 2018 and January 2019.
- Sofia is a Boeing 747SP jetliner modified to carry a 100-inch diameter telescope. It is a joint project of NASA and the German Aerospace Centre, DLR.
- Scientists believe that the observatory's investigations will help them understand how magnetic fields affect the rate at which interstellar clouds condense to form new stars.
- One programme using the observatory's newest instrument, the High-resolution Airborne Wideband Camera-Plus, called HAWC+, will help astronomers better understand how energetic, active black holes contribute to the most luminous, distant galaxies.
- Researchers also plan to utilize Sofia's mobility to study the atmosphere of Saturn's moon Titan by studying its shadow as it passes in front of a star during an eclipse-like event called an occultation.



**JANUARY-3 2018**

## **General Studies-02**

### **Rajya Sabha passes Bankruptcy Code Bill**

**News:** The Rajya Sabha passed the Insolvency and Bankruptcy Code (Amendment) Bill, 2017, which bars unscrupulous persons from misusing the provisions of the code.

**Beyond News:** The Bill, which replaces an ordinance promulgated last November, was cleared by the Lok Sabha last week.

#### **Bankruptcy Code Bill**

- The Bill prohibits certain persons from submitting a resolution plan in case of defaults. These include:
  - (i) wilful defaulters,
  - (ii) promoters or management of the company if it has an outstanding non-performing debt for over a year,
  - (iii) disqualified directors, among others.
- Further, it bars the sale of property of a defaulter to such persons during liquidation.

### **CCEA approves over ₹6,800-cr Zojila Tunnel project**

**News:** The Cabinet Committee on Economic Affairs approved the ₹6,808-crore Zojila Tunnel project in Jammu and Kashmir that will provide year-round connectivity between Srinagar, Kargil and Leh when completed.

#### **Beyond News**

- Currently, Leh-Ladakh is cut off from the rest of India for almost six months due to heavy snowfall and threat of avalanches.
- The project aims to construct a 14.15-km long two-lane bidirectional single tube tunnel with a parallel 14.2-km long egress or parallel escape tunnel, excluding approaches between Baltal and Minamarg in the state, an official release said.
- The government added that the project will be an instrument for the development of the economically backward districts in J&K.
- The project will be implemented by Ministry of Road Transport & Highways through National Highways and Infrastructure Development Corporation Limited.



## Never acknowledged existence of Arunachal Pradesh: China

**News:** China said it had “never acknowledged” the existence of **Arunachal Pradesh** as it kept mum over a media report that its troops intruded into the Indian side of the border in the frontier State.



### **Beyond News**

- Chinese Foreign Ministry spokesman Geng Shuang’s response came after a media report said that Chinese troops intruded into the Indian territory in Arunachal Pradesh for about 200m close to a village in Upper Siang district.
- China claims Arunachal Pradesh is part of South Tibet.
- The **India-China** border dispute covered 3,488 km along the Line of Actual Control (LAC).
- According to the report, the Chinese troops who reportedly crossed over with the construction machinery in December 2017 were stopped by Indian soldiers. The Chinese troops reportedly left the construction equipment behind.
- Asked whether there is another standoff between India and China similar to the one in Doklam area, Mr. Geng said the “standoff which happened last year has been resolved properly”.
- The standoff ended on August 28 following mutual agreement under which China stopped the road building and India withdrew its troops.

## General Studies-03

### NASA-inspired technique boosts wheat production

**News:** Inspired by NASA’s experiments to grow wheat in space, Australian scientists have developed the world’s first ‘speed breeding’ technique that can boost the production of the crop by up to three times.

### **Beyond News**

- The NASA experiments involved using continuous light on wheat which triggered early reproduction in the plants.
- Experiments showed that the quality and yield of the plants grown under controlled climate and extended daylight conditions was as good, or sometimes better, than those grown in regular glasshouses.
- Researchers said that, there has been a lot of interest globally in this technique due to the fact that the world has to produce 60-80 per cent more food by 2050 to feed its nine billion people

- The speed breeding technique has largely been used for research purposes but is now being adopted by industry.

**JANUARY-4 2018**

## **General Studies-02**

### **Former ministers can't overstay in official bungalows-Supreme Court**

**News:** SC held that Former ministers have no business overstaying in official bungalows.

#### **Beyond News:**

- A minister who has demitted office cannot cling on to public largesse, *amicus curiae* Gopal Subramaniam submitted in the Supreme Court .
- The apex court is examining a provision in a Uttar Pradesh law that allows ex-ministers to stay on in official bungalows.
- Uttar Pradesh-based NGO Lok Prahari has sought action against the authorities for acting in contempt of a Supreme Court verdict in August 2016, directing them to ensure that the former chief ministers vacate the bungalows.

#### **Article 14**

- Appearing before a Bench of Justices asked whether Article 14 (fundamental right to equality) of the Constitution allows ex-ministers to retain their official bungalows indefinitely.
- In August 2016, the court held that former chief ministers should hand over possession of the bungalows occupied by them.
- Except former Presidents, Vice-Presidents and Prime Ministers in the “evening of their lives,” no dignitary, even former Chief Ministers, can be provided government bungalows for their lifetime unless backed by a specific statutory provision, the Supreme Court had held.

The court had observed that the public bungalows were maintained at a great cost to the exchequer and not meant to be “frittered away.” Allowing former chief ministers and their families to stay on indefinitely in public properties was a “largesse.”



## Dalits stage protests in Belagavi against violence in Bhima-Koregaon

**News:** Several Dalit organisations staged protests in Belagavi in Karnataka, against the violence in Maharashtra after the observation of the Bhima-Koregaon battle bicentenary.

**Why it's important?** It makes Koregaon event of 1818 significant.

### **Beyond News:**

- They were shouting slogans against the Maharashtra government for failing to control violence.
- They claimed that Brahminical forces had tried to wipe away memories of the victory of the Mahar regiment against the Peshwa forces in 1818 in Bhima-Koregaon.



## General Studies-03

### It's dust particles, not alien spacecraft, that cause dimming of Tabby's star

**News:** A press release from Louisiana State University says that the mysterious dimming of Tabby's star is caused by dust particles and not (as some believed) by alien spacecraft orbiting it.

### **Tabby's star**

- Tabby's star or Boyajian's star is the "most mysterious star in the universe" as it kept dimming and brightening irregularly, following no pattern.
- Officially called KIC 8462852, the star is 1,000 light years away from the Earth and 1,000 degrees hotter than the Sun.

### **Finding:**

- The recent report compiled by 133 scientists, shows that the dimming is caused by ordinary dust particles, the majority of them at a size less than one micrometre.
- The new data shows that different colors of light are being blocked at different intensities.





## Cook stoves in India more polluting than thought: study

**News:** A study has found that traditional cookstoves, widely used in the rural parts of India, may be producing much higher levels of particulate emissions than previously estimated, causing a detrimental impact on the country's environment and health of residents.



### **Beyond News:**

The research, published in the journal Atmospheric Chemistry and Physics, was the culmination of field studies conducted in India.

In December 2015, the researchers spent 20 days running a series of tests in Raipur, a city in central India where more than three-quarters of the families use cookstoves to prepare their meals.

The scientists burned a wide variety of biofuels (fuel wood, agricultural residue, and dung) acquired from different parts of India, cooked different meals in a number of varying ventilation situations and recorded the resulting emission levels using high-tech particle measurement devices.

The scientists say that the newly developed low-cost pollution sensor can allow to eventually determine the regions of hot spots and locations that would have high concentrations of emissions.

**JANUARY-5 2018**

## General Studies-02

### Defence Ministry approves projects worth 2420 crore

**News:** The Defence Ministry gave final approval for the procurement of simulated training solutions for the Navy's P-8I long range maritime patrol aircraft and electronic warfare systems for the Army at a combined cost of 2419.32 crore.

### **Beyond News**

- Defence Ministry said in a statement that, the P-8I training solution, along with 10 year comprehensive maintenance service, will be brought



from Boeing for 1949.32 crore.

This training solution accurately simulates P-8I aircraft and mission systems

- This will help Indian Navy train and realistically rehearse for sophisticated missions involving P-8I aircraft, at a fraction of the cost of live aircraft training, the statement said.
- The deal was cleared in the past by the Defence Acquisition Council (DAC).

### Another Proposal

- The second proposal was for the procurement of Low Intensity Conflict Electronic Warfare System (LICEWS) for the Army.
- These will be procured from Bharat Electronics Limited for 470 crore.
- This system will equip the Army with upgraded communications infrastructure that will help the forces to effectively deal with the advanced communications systems being used by terrorist groups, the statement added.

## Lok Sabha passes bill to hike salaries of judges

**News:** The Lok Sabha passed a bill to hike the salaries of judges of the Supreme Court and High Courts.

### Beyond News

The Bill proposes to hike the salary of the Chief Justice of India to 2.80 lakh a month, and that of judges of the Supreme Court and Chief Justices of High Courts to 2.5 lakh a month. Judges of High Courts will draw a salary of 2.25 lakh a month once this Bill becomes law.

The salary hike, in line with the recommendations of the 7th Pay Commission for officers of all-India services, will come into force with effect from January 1, 2016.

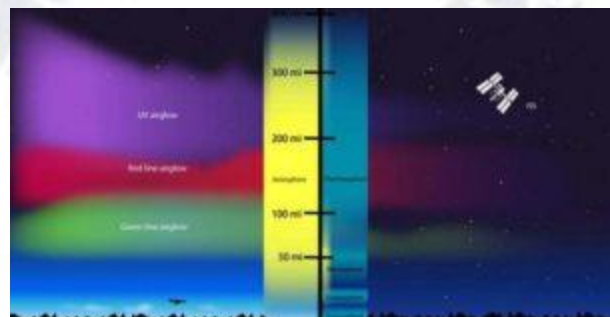
## General Studies-03

## NASA to launch two missions to explore nearest space

**News:** NASA has announced that it would launch two missions to explore the little-understood area of 96 km above Earth's surface.

### Beyond News

- US space agency said that the Global-scale Observations of the Limb and Disk (GOLD) mission will be launched in January 2018, and the Ionospheric Connection Explorer (ICON) will be launched later this year.



- GOLD and ICON will team up to explore the ionosphere, a boundary area between Earth and the space where particles have been cooked into a sea of electrically-charged electrons and ions by the Sun's radiation, reports Xinhua news agency.
- These layers of near-Earth space are increasingly becoming a part of human domain as it is home to radio signals used to guide airplanes, ships and Global Positioning System satellites.
- NASA said that the two missions were complementary. ICON will be in low-Earth orbit, at 560 km above Earth, like a close-up camera while GOLD will be in a geostationary orbit over the Western Hemisphere, about 35,398 km above the planet's surface.

It will help in full-disk view of the ionosphere and the upper atmosphere beneath it every half hour.

## Gujarat-based cardiologist uses robotic technology to conduct angioplasty

**News:** In a move that can change the norms of cardiology, Gujarat-based interventional cardiologist Dr. Tejas Patel has developed robotic technology for coronary intervention, a first in Asia.

With the help of a robot, Dr. Patel has started robotic-assisted stenting on heart patients in his Apex Heart Institute in Ahmedabad.

### Why this News Important?

This is the first and the only Vascular Robotic system outside the United States.

### Beyond News

- The USFDA-approved robotic technology for coronary angioplasty or stenting provides accuracy of sub-1 millimetre, as against maximum possible 5-10 millimetres in case of humans.
- The robotic system comprises of three parts namely a cath lab-integrated robotic arm, a cockpit — from where the cardiologists will command the robot through joystick — and a replaceable-cassette that carries the clinical materials for each individual case requirements.
- Costing about US \$1.5 million, the robotic system has in-built artificial intelligence which helps cardiologists take sound clinical judgements

In India, an estimated 50 million people are suffering from the heart diseases, while only 500,000 angioplasty surgeries were conducted in 2016, suggesting a huge scope for widening of the treatment.





**JANUARY-6 2018**

## **General Studies-02**

### **India dismisses Sikh group's threat**

**News:** India has dismissed a warning from a U.K. Sikh group, that it would encourage diaspora gurdwaras to ban Indian officials from visiting them.

#### **Beyond News:**

- Terming the statement a '**knee jerk reaction**', officials said it reflected the group's fears of the strengthening relation between Indian authorities and Sikh diaspora globally.
- Deputy High Commissioner said to London Dinesh Patnaik after the group Sikh Federation (U.K.) accused Indian authorities of interfering in Sikh institutions and affairs and proposed a "worldwide ban" on Indian government officials from visiting gurdwaras in the diaspora.

#### **Latest Problem**

- The latest tactic by the **Indian authorities of targeting Sikhs from the diaspora** when they visit the Sikh homeland as demonstrated by the case of British citizen Jagtar Singh Johal has broken the camel's back.
- The group has been running a campaign over the arrest of Mr. Johal, who was detained in Jalandhar last year, and is accused of involvement in "targeted killings" in Jalandhar, Ludhiana and Khanna.
- The group has accused Indian authorities of torture and has been lobbying Members of Parliament to put pressure on the British government and Indian authorities.
- Patnaik said the High Commission was confident that the organisation's position did not reflect that of the vast majority of Sikhs in Britain who were positive about the strengthening links between the community and Indian authorities.



### **U.S. move against Pakistan 'welcome first step': India**

**News:** New Delhi and Washington have been in close touch over the decision, and Foreign Secretary S. Jaishankar met with U.S. Ambassador to India Kenneth Juster, hours after the U.S.

administration announced that it would suspend all its security assistance to Pakistan unless it acts against terror groups targeting Afghanistan, as a part of its “**South Asia strategy.**”

### Beyond News

- India had issued statements welcoming the U.S.’s South Asia strategy announced by President Donald Trump in August, and its new National Security Strategy issued in December, both of which called on Pakistan to take action against terror safe havens that target U.S. troops in Afghanistan, or face consequences.

The MEA’s decision not to issue any statement on Friday, however, was **attributed to several reasons.**

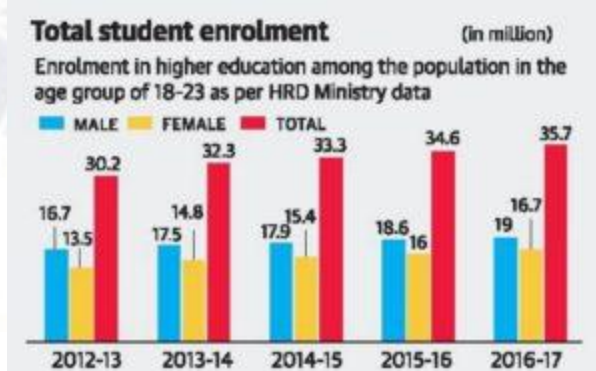
- Firstly, the **U.S. announcement did not come as a surprise**, as it came three months after the Trump administration notified the U.S. Congress that it would not disburse the 2016 tranche of its Foreign Military Funding (FMF) of \$255 million.
- Secondly, while officials hailed the move, it **doesn’t at present include any specific words for groups** like the Lashkar-e-Taiba and Jaish-e-Mohammad that target India. As a result, it is understood India would rather not speak about what is essentially a bilateral action between U.S. and Pakistan, even as it strengthens its own counter-terrorism cooperation with the US. Last month’s India-U.S. counter terrorism designations dialogue was one such new effort.
- Finally, experts say there is some scepticism about whether the U.S. action will effect the desired reaction from Pakistan, if it relates only to the military funding of about \$255 million in (FMF) and possible \$900 more in Coalition Support Funding (CSF), without further action.

### Tamil Nadu leads the nation in higher education enrolment

**News:** Tamil Nadu has emerged as the leader in the country in terms of Gross Enrolment Ratio (GER) in **higher education.**

### Beyond News

- The All India Survey on Higher Education report (2106-2017), released by Minister of Human Resource Development Prakash Javadekar, saw the State lead with a GER of 46.9%.
- Among Union Territories, Chandigarh recorded 56.1%.
- **Tamil Nadu** has also done very well in terms of male and female GER figures, as also the GER figures for the Scheduled Castes.
- GER for higher education is calculated with reference to the age group 18-23.



- It is the total enrolment in higher education, irrespective of age, expressed as a percentage to the eligible official population (18-23 years) in a given school year.

### **Bring SC, ST residential schools under CCTV surveillance: OHRC**

**News:** Amid reports of recurring sexual assaults on minor girls in government-run residential schools for children belonging to tribal and weaker sections, the Odisha Human Rights Commission has directed the State government to bring all such school premises under the surveillance of closed-circuit television cameras.

#### **Beyond News**

- The commission recommends that the premises of residential schools be fitted with CCTV cameras.
- The school and hostel premises must be well lit and proper hygiene maintained.

### **General Studies-03**

### **Channels with Pakistan open to counter terrorism**

**News:** The Ministry of External Affairs told the Parliamentary standing committee on External Affairs that, the government is in regular contact with Pakistan, but any meaningful dialogue would depend on an end to terrorism and cross-border violence.

**Beyond News:** The report added that, at the same time, it has been made clear to Pakistan that a meaningful structured Comprehensive Bilateral Dialogue would be possible only in an environment free from terror and violence.

**Challenges :** The challenges to better ties between India and Pakistan, includes the **rise in firing at the LoC and International Border, infiltration, and support to terror groups such as Lashkar-e-Taiba, Jaish-e-Mohammad and Hizbul Mujahideen.**

**JANUARY-7&8 2018**

### **General Studies-02**

### **Safe havens to terrorists in Pakistan not acceptable to US: CIA**

**News:** CIA chief Mike Pompeo has said that Pakistan continues to provide safe havens to terrorists which is not acceptable to America.

#### **Beyond News**



Central Intelligence Agency (CIA) Director said that, U.S. President Donald Trump has asked Pakistan to “cease” being a safe haven for terrorists that threaten the U.S.

The U.S. has suspended about \$2 billion in security aid to Pakistan for failing to clamp down on the Afghan Taliban and the Haqqani terror network and dismantle their safe havens.

## **General Studies-03**

### **Railways to deploy drones to monitor projects**

**News:** Drones would now monitor railway projects, aid crowd management and oversee maintenance works across its zones, the West Central Railways was the first zone to procure such drone cameras.

The move assumes significance in the backdrop of the Elphinstone station road bridge tragedy in Mumbai, in which 23 people had died in a stampede on September 29 last year.

#### **Why this news Important?**

The West Central Railways, headquartered at Jabalpur (MP), is the first zonal railway to procure the drone cameras and it has already conducted a trial run of the cameras last week in all of its three divisions.

#### **What is a Drone?**

A drone is essentially a flying robot which can be remotely handled through software-controlled flight plans embedded in its system, working in conjunction with GPS.



#### **Uses**

- The cameras (UAV/NETRA) would be used for various activities, especially project monitoring and maintenance of the tracks and other railway infrastructure, the national transporter said in a statement.
- Directions have been given to the zonal railways to procure such cameras. This is in line with the railways' desire to use technology to enhance safety and efficiency in train operations.
- Unmanned aerial vehicles or drones would be deployed to monitor relief-and-rescue operations, projects, progress of important works, the condition of the tracks etc., the statement said.

- These would also be used to assess the preparedness of the non-interlocking (NI) works, for crowd management during fairs, to identify scrap and also for an aerial survey of the station yards, it added.
- The cameras would be instrumental in providing real-time inputs as regards the safety and maintenance of the tracks and other railway infrastructure.

### **Boost to gravitational wave study**

**News:** David Reitze, executive director of Laser Interferometer Gravitational-Wave Observatory (LIGO) said that India's role in studying gravitational waves touted as one of the most important discoveries of the recent past will increase once the proposed gravitational wave observatory is set up in the country.

#### **Beyond News:**

- The observatory is expected to start functioning by 2025.
- Gravitational waves are 'ripples' in the fabric of space-time, caused by some of the most violent and energetic processes in the universe such as merger of black holes or neutron stars.  
Already, several physicists from Bengaluru-based International Centre for Theoretical Sciences (ICTS) are an active part of the LIGO project.
- At present, the LIGO detectors are sensitive to about 70 to 80 megaparsec (280 million to 300 million light years) for binary neutron stars and for binary black holes, the sensitivity is about 2 gigaparsec (approximately 3 billion light years).  
With improved sensitivity, these detectors will be able to fetch information from farther distances in space.

### **Fatal crossings: tigers in 26 reserves under threat**

**News:** On New Year's eve, a fast-moving vehicle on Maharashtra's National Highway 6 killed Bajirao, one of Bor Tiger Reserve's charismatic, dominant male tigers.

#### **Beyond News**

The same day, a team of scientists published the findings from their latest research, roads with high traffic are sounding the death knell for the tiger in this part of the country.

Unplanned expansion of national highways without mitigation measures (such as underpasses created for wildlife) could greatly increase the probability of tiger extinction in Central India's protected areas, home to one of the largest tiger populations.



According to the National Highways Authority of India, the country's road network, at approximately 33 lakh km, is the second largest in the world.

Many of these roads including national and State highways cut through at least 26 tiger reserves, says a draft guidance document of the Wildlife Institute of India (WII), framed to reduce the impact of roads and railway lines on wildlife.

Leopards, snakes, deer, desert fox, golden jackals, civets and critically endangered amphibians are among the wildlife that perish on roads in States as far flung as Assam, Rajasthan, Uttar Pradesh and Tamil Nadu.

### After effects

For tigers, like many other species, traversing large areas to move across habitats involves crossing of roads.

This is the only way they can ensure genetic diversity, which is vital for species survival. When scientists from the National Centre for Biological Sciences (NCBS) and other organisations extracted genetic material from the scat of 116 tigers to study genetic diversity across 11 protected areas, they found that human settlements and traffic intensity — which restrict tiger movement between populations, decreased genetic exchange the most.

**JANUARY-9 2018**

## **General Studies-02**

### **SC modifies order, says playing of national anthem in cinema halls is not mandatory**

**News:** The Supreme Court modified its November 30, 2016 interim order and made it optional for cinema halls to play the 52-second national anthem before every show.

### Beyond News

- A Bench, clarified that it is not mandatory to play the anthem before screenings in cinemas.
- It left the choice of whether to play the anthem or not to the discretion of individual cinema hall owners.

However, if the anthem is played, patrons in the hall are bound to show respect by standing up. The court clarified that the exception granted to





disabled persons from standing up during the anthem “shall remain in force on all occasions”.

### At PIO Parliamentary Conference, PM urges leaders of Indian origin to come forward to join hands in changing India

**News:** As part of its intensified outreach to the Indian diaspora, the Government of India launched a conference of legislators and political leaders of Indian origin from all over the world.

#### Beyond News

- The “First PIO [Person of Indian Origin] Parliamentary Conference” was inaugurated in New Delhi by Prime Minister Narendra Modi, who reminded the participants that the event is aimed at reconnecting them with their ancestral land and spirit.
- The Ministry of External Affairs (MEA) said 124 parliamentarians and 17 Mayors of Indian origin have come to attend the Pravasi Bharatiya Divas.
- Mr. Modi specially mentioned the presence of former Guyanese President Bharat Jagdeo in the celebration and noted that from Mauritius to Guyana there are several Indian origin individuals who have become leaders of their countries.
- Prime Minister also said that, India was experiencing aspirational and societal changes. An ‘irreversible change’ was sweeping the country and leaders of Indian origin should come forward to join hands.

### General Studies-03

### Chemical ban has helped closing up of ozone layer hole !

**News:** With the declining levels of ozone-destroying chlorine, scientists have for the first time observed less ozone depletion.

#### Importance of Ozone

- ➔ Stratospheric ozone protects life on the planet by absorbing potentially harmful ultraviolet radiation that can cause skin cancer and cataracts, suppress immune systems and damage plant life.

#### Beyond News

- ➔ The findings showed that an international ban on chlorine-containing manmade chemicals called chlorofluorocarbons(CFCs) has resulted in about 20 per cent less ozone depletion during the Antarctic winter from 2005 to 2016.



- ➔ Specifically, chlorine levels declined by an average about 0.8 per cent annually.
- ➔ The change in ozone levels above Antarctica from the beginning to the end of southern winter- early July to mid- September - was computed daily from the Microwave Limb Sounder (MLS) aboard the Aura satellite every year from 2005 to 2016.
- ➔ The researchers said that, Antarctic ozone hole should continue to recover gradually as CFCs leave the atmosphere, but complete recovery will take decades.

## India unveils Pratyush, its fastest supercomputer yet.

| Top five fastest supercomputers of the world |                                                             |                 |            |
|----------------------------------------------|-------------------------------------------------------------|-----------------|------------|
| Rank                                         | Site                                                        | Rpeak (TFlop/s) | Power (kW) |
| 1                                            | National Supercomputing Center in Wuxi, China               | 1,25,435.9      | 15,371     |
| 2                                            | National Super Computer Centre in Guangzhou, China          | 54,902.4        | 17,808     |
| 3                                            | Swiss National Supercomputing Centre, Switzerland           | 25,326.3        | 2,272      |
| 4                                            | Japan Agency for Marine Earth Science and Technology, Japan | 28,192          | 1,350      |
| 5                                            | DOE/SC/Oak Ridge National Laboratory, United States         | 27,112.5        | 8,209      |



Rpeak values are based on clock rate of CPU

Source: Top500.org

**News:** India's supercomputing prowess moved up several notches after it unveiled Pratyush, an array of computers that can deliver a peak power of 6.8 petaflops.

### Beyond News

- ➔ One petaflop is a million billion floating point operations per second and is a reflection of the computing capacity of a system.
- ➔ According to a statement by the Indian Institute of Tropical Meteorology (IITM), Pratyush is the fourth fastest supercomputer in the world dedicated to weather and climate research, and follows machines in Japan, USA and the United Kingdom.
- ➔ It will also move an Indian supercomputer from the 300s to the 30s in the Top500 list, a respected international tracker of the world's fastest supercomputers.

The government had sanctioned Rs. 400 crore last year to put in place a 10-petaflop machine.

### Uses

- A key function of the machine's computing power would be monsoon forecasting using a dynamical model.

- This requires simulating the weather for a given month say March and letting a custom-built model calculate how the actual weather will play out over June, July, August and September.

With the new system, it would be possible to map regions in India at a resolution of 3 km and the globe at 12 km.

**JANUARY-10 2018**

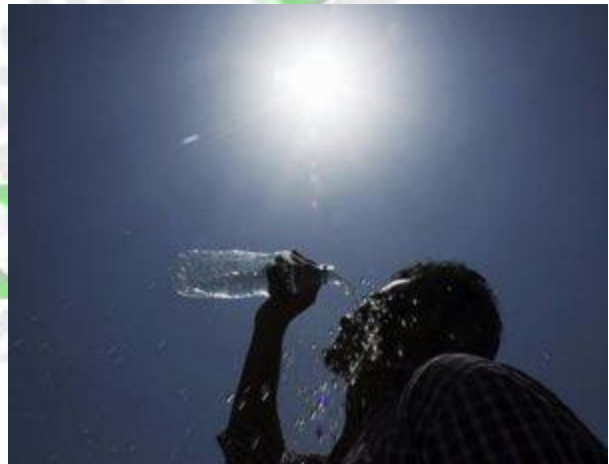
## **General Studies-01**

### **2017 was second hottest year on record**

**News:** Last year was the second hottest worldwide on record, just behind a sweltering 2016 with signs of climate change ranging from wildfires to a thaw of Arctic ice, a European Union monitoring centre said.

#### **Beyond News:**

The Copernicus Climate Change Service, the first major international weather agency to report global 2017 temperatures, said they averaged 14.7 degrees Celsius above pre-industrial times.



### **Findings in the Report**

- Last year was slightly "cooler than the warmest year on record, 2016, and warmer than the previous second warmest year, 2015," the report said. Temperature records date back to the late 19th century.
- The measurements back up a projection by the U.N. World Meteorological Organization (WMO) in November that 2017 would be second or third warmest behind 2016, as part of a long-term trend driven by man-made greenhouse gases.

Sweltering temperatures in 2016 were also boosted by a natural El Nino event that happens every few years and releases heat from the Pacific Ocean.

- Last year was the warmest year on record without the influence of an El Nino, according to Copernicus, run by the European Centre for Medium-Range Weather Forecasts.



## General Studies-02

### India, U.K. to ink illegal migrants pact

**News:** India will sign a pact with the United Kingdom for a return of illegal Indian migrants within a month of them being detected by British authorities.



### **Beyond News:**

- The U.K has consistently raised the issue of return of illegal migrants said to number in thousands with India.
- The memorandum of understanding comes ahead of Prime Minister Narendra Modi's proposed visit in March.
- During her maiden visit to India on November 7, 2016, British Prime Minister Theresa May had said the U.K. would consider an improved visa deal "if at the same time we can step up the speed and volume of returns of Indians with no right to remain in the U.K."
- An Indian delegation, led by Minister of State for Home Kiren Rijiju, is visiting the U.K. this week.

## General Studies-03

### India to regain top spot with GDP pegged at 7.3% in 2018-19: World Bank

**News:** The World Bank is estimating India's economy to grow by 6.7 per cent in the current fiscal year, higher than the 6.5 per cent estimate by the Government of India.

### **Beyond News:**

The Gross Domestic Product (GDP) growth is expected to rise to 7.3 per cent in 2018-19, making India again the world's fastest growing economy, according to the World Bank's Global Economic Prospects report released .

The report dropped the growth estimate for 2017-18 by 0.1 per cent from its projection June 2017, because of the disruptions to the economy from the Goods and Services Tax (GST). But it raised the growth forecast for 2018-19 by 0.1 per cent from the June figure.

The bank has forecast a GDP growth of 7.5 per cent in 2019-20 and 2020-21. It saw benefits down the road from the GST.

## Food Security Act: Team to probe bungling in Odisha

### News:

- The Odisha Human Rights Commission (OHRC) has decided to send its high-level team to Kandhamal to inquire into allegations of irregularities in implementation of the National Food Security Act (NFSA) in this underdeveloped district.

### Beyond News:

- According to the order passed by the commission on January 8, the high-level committee will go to Daringbadi in Kandhamal to look into the matter and submit its report to the OHRC within 15 days.
- The OHRC took this decision in view of serious objections raised by the petitioner convenor of 'Banabasi Suraksha Parishad' Narendra Mohanty against the report filed by the Kandhamal collector before the commission.
- Mr. Mohanty said that, following an agitation by the tribals and Dalits living in the remote pockets of the district in 2016, the administration had declared issuance of around 1,000 new ration cards to beneficiaries. But it was alleged that the real beneficiaries did not receive the ration cards and the subsidised food items.

## State to unveil 'Electricmobility policy' soon

**News:** With electric power-based locomotion becoming the preferred mode of transport sooner than later, the Andhra Pradesh government will soon come up with an 'Electric mobility policy'.

### Why this news Important?

This makes Andhra Pradesh the **first State** to not only identify and tap the potentially emerging sector, but also make a vision plan in tune with its **policy of promoting clean energy**.

### Beyond News

Andhra Pradesh Chief Minister made the announcement after laying foundation stone for the ultra modern global scale manufacturing facility of the Apollo Tyres at Chinna Pandur in Satyavedu, the tail-end constituency abutting Tamil Nadu.

He called electric-powered mobility as the next generation mode of transportation that must be adopted at the earliest.

He also said that, emphasis would be laid on Research and Development (R&D), creating demand and improving the charging infrastructure.

**JANUARY-11 2018**

## **General Studies-02**

### **U.S. places India at Level 2 in its new travel advisory for citizens**

**News:** The United States on Wednesday issued a new travel advisory for countries including India, which its officials said is “user friendly” as it is based on ready-to-understand level of advice ranging from one to four.

#### **Beyond News**

- India has been ranked Level 2 (exercise increased caution) while Pakistan has been placed in Level 3 (reconsider travel).
- Level 1 advises travellers to exercise normal precaution, while Level 4, which has countries like Afghanistan, recommends “Do Not Travel”.

#### **Impact of Terrorism**

- Placing India on Level 2, the State Department identified “crime and terrorism” for Americans to exercise increased caution.
- However, it asks Americans not to travel to Jammu and Kashmir, except for eastern Ladakh and Leh and not to venture within 10 miles of the India-Pakistan border due to the “potential for armed conflict”.
- Ranking Pakistan on Level 3, the State Department asked Americans to reconsider travel to this country due to terrorism.
- Americans are also advised not to travel to Pak-Occupied Kashmir due to terrorism and the potential for armed conflict.

### **Ban on use of national flag made of plastic**

**News:** The Central government urged everyone not to use a national flag made of plastic and asked the states and Union Territories to ensure strict compliance of the Flag Code in view of the Republic Day celebrations ahead.

#### **Beyond News**

- An advisory from the Union Home Ministry said that the “national flag represents the hopes and aspirations of the people of the country and hence should occupy a position of honour”, but since plastic flags are not biodegradable like paper flags, **ensuring appropriate disposal of a national flag made of plastic is a practical problem.**

### **Section 2 of The Prevention of Insults to National Honour Act, 1971**



- As per Section 2 of The Prevention of Insults to National Honour Act, 1971, whoever in any public place or any other place within public view burns, mutilates, defiles, destroys, tramples upon or otherwise shows disrespect to or brings into contempt (whether by words, either spoken or written, or by acts) the Indian National Flag or any part thereof, shall be punished with imprisonment for a term which may extend to three years, or with fine, or with both.

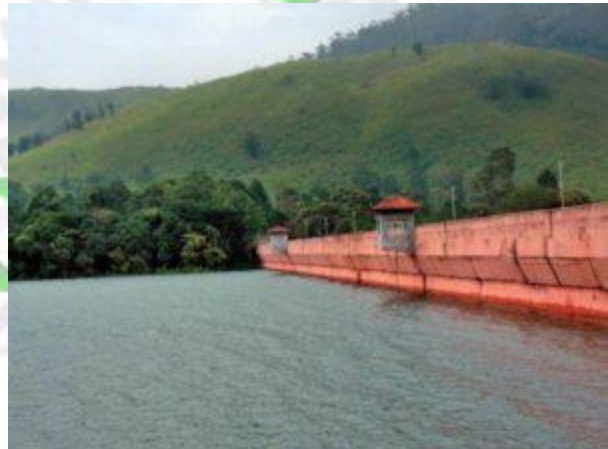
The advisory said that on important national, cultural and sports events, flags made of paper only are to be used by the public, and after the event such flags are to be disposed of in private, consistent with the dignity of the flag.

## General Studies-03

### Mullaperiyar dam: SC asks Centre, TN, Kerala to set up panels to prepare disaster management plans

#### News

Despite assurances from the Union government that the 122-year-old Mullaperiyar dam is “safe,” the Supreme Court directed it to set up a special committee to exclusively prepare disaster management plans.



#### Beyond News

- A three-judge Bench also directed Tamil Nadu, which owns the dam, and Kerala, where it is situated, to set up similar committees.
- It said the three committees would work in harmony.
- The Bench said the step was taken to allay the fears of thousands of people who live downstream or in the vicinity of the dam.

It clarified in the order that the special committees have nothing to do with the lifespan or safety of the dam.

Their brief is restricted to disaster management plans to prevent a calamity or contain the loss of life and damage to property in case a tragedy hits the dam.

The Bench noted that a committee had been formed to cover the aspects of safety and lifespan of the dam as ordered by a Constitution Bench of the court in May 2014.

## Gujarat to count elusive tigers

**News:** Gujarat, which houses a rich population of lions, will now see an exercise to find out if tigers also inhabit the State.



### **Beyond News**

- The last time a tiger was spotted in Gujarat was way back in 1985. Now, over three decades later, a census has been planned next month to ascertain the presence of the striped animal in the forest of Dang district.
- The State forest department earlier sent a proposal to the National Tiger Conservation Authority (NTCA) for the census after some media reports suggested the presence of tigers in Dang.

The proposal was approved by the NTCA, a statutory body under the Union Ministry of Environment and Forests.

- Till the early 1980s, there were tigers in Gujarat, mainly inhabiting the forests of Dang, Narmada and Sabarkantha districts.
- “The last tiger died in a road accident in Dang in 1985. No tiger was seen in the State after that.
- The forest department sent a team in July last year to survey the area to ascertain the presence of tigers, but the report was negative.

**JANUARY-12 2018**

## General Studies-02

### Netanyahu’s visit to give a leg-up to India-Israel ties

**News:** Israeli Prime Minister Benjamin Netanyahu will visit India between 14-19 January, 2018, the Ministry of External Affairs announced.

### **Beyond News:**



## Looking ahead

A peek into Israeli Prime Minister Benjamin Netanyahu's India visit, starting on January 14

**The team:** Mr. Netanyahu will lead a high-profile delegation, comprising 130 businessmen with interests in agriculture, water, cyber security, health care and security

**Investment plan:** Israel will invest \$68.6 million in India in areas like tourism, technology, agriculture and innovation over a period of four years

### MOUs LIKELY IN



Oil and gas



Renewable energy



Science and Technology



Protocol for airports



Cyber security



Co-production of films, documentaries



Homoeopathy and ayurveda

• This is the second visit by an Israeli Prime Minister to India after a gap of 15 years

• Ariel Sharon visited New Delhi in 2003

### PACKED SCHEDULE

**Jan. 14:** Prime Minister Narendra Modi will host a private dinner for Mr. Netanyahu

**Jan. 15:** The Israeli PM will be welcomed at the Rashtrapati Bhavan

**Jan. 16:** Mr. Netanyahu, accompanied by wife Sara, will visit the Taj Mahal in Agra

**Jan. 17:** The Israeli PM will visit Gujarat, where a "road show" will be held

**Jan. 18:** Will have a "power breakfast" with business leaders in Mumbai and attend memorial services for the Mumbai terror victims

• He will also attend a gala event with Bollywood actors, directors and producers



Israeli Prime Minister Benjamin Netanyahu speaking at an event for foreign media in Jerusalem on Wednesday.

• REUTERS

SOURCE: PTI

The visit is a reciprocating gesture from Israel to the first Prime Minister-level visit from India undertaken by Prime Minister Narendra Modi in July 2017.

The visit marks the high point of the 25th anniversary of normal diplomatic ties between the two countries.

## China breaks India's internet monopoly in Nepal

**News:** China became Nepal's second internet service provider, breaking India's monopoly in providing internet access to the Himalayan Kingdom.

### Beyond News

The Hong Kong and Beijing based China Telecom Global (CTG) a company formed in 2012 has teamed up with Nepal Telecom to provide alternate cyber-connectivity to Nepal.





So far, Nepal had been linked to the global internet network through Indian telecom operators, using optical fiber connections in Biratnagar, Bhairahawa and Birgunj, among others.

But a new terrestrial fiber cable launched in 2016 by CTG will now connect Nepal and China through the Jilong (Rasuwagadhi) border gateway.

Media reports in Nepal say that the new fiber link extends to China's Hong Kong Data Center one of Asia's largest global data centers.

### Coming soon: orange passports sans parents' names

**News:** Orange will be the colour of jackets of new general passports, announced the Ministry of External Affairs indicating a facelift for the blue booklet, essential for the Indian travellers.

#### Beyond News

- The announcement came even as the ministry responding to a single mother's application for her child's passport, conducted extensive consultations and did away with the usual last page of the document, which contained names of parents, and home address of the applicant.
- However, the passports that are currently in circulation would remain valid till the printed date of expiry in the booklet.
- The announcement on the new look passport came along with the decision of the MEA to do away with the back page of the passport that has been subjected to criticism from single parents as it required names of both parents.

After consulting the International Civil Aviation Organization (ICAO) regarding compatibility of passport booklets minus the last page, with Machine Readable Travel Documents, the MEA concluded that, the last page of the passport and other travel documents issued under the Passports Act, 1967 and Passport Rules, 1980 would no longer be printed.

### General Studies-03

#### ISRO's 42nd PSLV successfully puts 31 satellites in orbit

**News:** The 42nd Polar Satellite Launch Vehicle (PSLV), PSLV-C40, was launched successfully by the Indian Space Research Organisation (ISRO) from the First Launch Pad of the Satish Dhawan Space Centre (SDSC) in Sriharikota and it placed 31 satellites across two orbits.

#### Beyond News



- The PSLV, launched at 9.29 a.m., had as its primary payload the country's fourth satellite in the remote sensing Cartosat-2 series, weighing 710 kg. The 30 other co-passenger smaller satellites, together weigh 613 kg. Of them, 28 are from other countries.
- The Cartosat-2, whose imagery will be used to develop various land and geographical information system applications, was placed in a circular polar sun synchronous orbit 505 km from the Earth.
- It is the two other Indian satellites in the payload that have generated much excitement. Both are called technology demonstrators, indicating significant strides in miniaturisation.
- The other one, a nanosatellite, named Indian Nano Satellite (INS) - 1C, is the third in its series; its predecessors were part of the PSLV-C37 launch of February 2017.
- Of the 28 foreign satellites, launched as part of deals made by ISRO's commercial arm Antrix Corporation Limited, three were microsatellites and 25 nanosatellites.

There were 19 satellites from the United States and five from South Korea. The United Kingdom, France, Canada and Finland had a satellite each.

**JANUARY-13 2018**

## General Studies-02

### Four SC judges air differences with CJI Misra

#### In one voice



Justices Kurian Joseph, Jasti Chelameswar, Ranjan Gogoi and Madan B. Lokur (from Left) during a press conference in New Delhi on Friday. ■ R.V. NODDHY

There have been instances where cases having far-reaching consequences for the nation and the institution had been assigned by the Chief Justice of this Court selectively to the Benches "of their preferences" without any rational basis for such assignment. This must be guarded against at all costs. **THE JUDGES' LETTER TO THE CJI**

#### Justice Jasti Chelameswar

It is with no pleasure that we have been compelled to do this, administration of Supreme Court is not in order... many less than desirable things have taken place

We owe a responsibility to the institution and the nation. Our efforts have failed in convincing the CJI to take steps to protect the institution

We all (four judges) are convinced that unless this institution is preserved and (is allowed to) maintain its equanimity, democracy will not survive in this country or any country

#### Justice Ranjan Gogoi

It is discharge of debt to the nation which has brought us here

**News:** In an unprecedented act, four senior judges of the Supreme Court held a press conference and publicly accused Chief Justice of India Dipak Misra of selectively assigning cases to judges of his choice without any rational basis.

#### Beyond News

- Transcending judicial protocol that sitting judges should not interact with the media, Justices Jasti Chelameswar, Ranjan Gogoi, Madan B. Lokur and Kurian Joseph the senior-most judges after the CJI accused Justice Misra of assigning cases of "far-reaching consequences to the nation" to junior hand-picked judges against the time-tested convention, practice and tradition of the court.
- In a letter addressed to the CJI and circulated at the press meet, the four said certain Supreme Court judges arrogated to themselves the "authority to deal with and pronounce upon" cases which ought to be heard by other appropriate Benches.



Justice Chelameswar, speaking for the four, said they had collectively tried to persuade the Chief Justice to take remedial measures but their efforts had failed.

The judges said that with the independence of the judiciary and the future of democracy at stake, they had “no other choice but communicate to the nation to please take care of this institution.”

- Justice Chelameswar recounted that the trigger for the press conference was a meeting they held with the Chief Justice regarding the assignment of a petition, seeking an independent probe into the **mysterious death of CBI judge B.H. Loya**, to a particular Bench.
- Without naming any, Justice Chelameswar said that several other important cases like this had been **assigned to preferred Benches** over the past months.
- Also said that, the convention of the court demands that important cases of public interest or sensitive matters should be first heard by the CJI. **If the CJI is not willing for some reason to hear the case, it should be assigned to the next senior-most judge in the Supreme Court.**

### India makes push for U.K. immigration reform

**News:** Commerce and Industry Minister and Minister of State for Home Affairs, both on visits to the U.K., have pressed the need for Britain to review **immigration** policies relating to India, including on student visas and the extension of a visa system introduced for Chinese visitors to the U.K.

### **Beyond News**

- The meetings came as India and Britain agreed to the terms of a memorandum of understanding on the swift return of Indian illegal immigrants from the U.K. an issue that has been repeatedly raised by the British government and cited as an obstacle to immigration reform on the British side.
- Among the key asks raised by the Ministers is for the introduction of a two-year visa system for business travellers.
- Prabhu said he raised issues both around the ease of getting visas and the costs which could prove prohibitive for the services sector.
- Both Ministers expressed their satisfaction with the progress of talks on these issues.

## General Studies-03

### Search in Bharathapuzha unearths 6 pieces of PSP

**News:** Six pieces of perforated steel planking (PSP) were recovered from the Bharathapuzha under the Kuttippuram bridge during a combined search conducted by the police and other security agencies.

**Beyond News:** The search was carried out under the leadership of Intelligence DIG, in the wake of the recovery of a cache of ammunition from the river. Five anti-personnel mines had been found abandoned near the bridge last week.

#### **For Army use only!**

- Both the land mines and the cache of bullets recovered from the site were used by the Army.
- The PSP pieces recovered were rusted heavily. The PSP is used to prevent Army vehicles getting stuck in marshy land.

The search was conducted with the help of an earth mover and using deep search metal detectors (DSMD). Bomb squads joined the search.

### Waterbird census in district from today

**News:** Water bird census, the annual event of counting birds in wetland areas conducted as part of the Asian Water bird Census (AWC), will be held on January 13 and 14 in Kochi(Kerala).

**Water bird:** Water birds are birds that are ecologically dependent on **wetlands**.

#### **Beyond News**

- Annually in January, hundreds of volunteers move across the wetland bird habitats in Asia to count waterbirds including the migratory ones.
- Data generated from AWC is used to identify and monitor wetlands of international and national importance.
- AWC covers the region of Asia from Afghanistan eastwards to Japan, southeast Asia and Australasia.



- The event runs parallel to other international census procedures of waterbirds in Africa, Europe, Middle East, and the neotropical regions.
- The annual waterbird census began in Kerala in 1987.
- The Kerala Sasthra Sahithya Parishad and the Social Forestry Wing of the Forest Department are also supporting the event.

**JANUARY-14&15 2018**

## **General Studies-02**

### **Cyber security, big data are new areas of India-Israel cooperation.**

**News:** Israeli Prime Minister Benjamin Netanyahu arrived in New Delhi on a six-day visit during which he will hold extensive talks with his Indian counterpart Narendra Modi, who received him at the airport, setting aside protocol.



### **Beyond News**

Mr. Netanyahu's visit to India is only the second by an Israeli Prime Minister and comes after a gap of 15 years.

Ahead of his departure from Israel, Mr. Netanyahu said that, they are strengthening ties between Israel and this important global power [India].

Oil and gas sector and cyber security will be new areas of India-Israel cooperation.

'Big data' from India was brought up by Israel to influence individual farmer's efforts, yield, water use.

### **India, Israel ink nine pacts**

- India and Israel inked nine pacts to boost cooperation in key areas, including cybersecurity and energy.
- The nine pacts were signed in the areas of cybersecurity, petroleum, air transport, research in homoeopathy, film co-production, space science, business investment, metal-air batteries and solar thermal technology.
- During Mr. Netanyahu's visit, Israel and India are expected to sign agreements on cybersecurity, energy and space cooperation, according to the External Affairs Ministry.



## Historians oppose Monuments Bill

**News:** Historians and archaeologists have expressed concern over amendments proposed to the Ancient Monuments and Archaeological Sites and Remains Act (1958).

### **Beyond News**

- If the related Bill is passed in the Upper House, it could have disastrous consequences for historical monuments.
- The Act, which originally instituted conservation measures and banned construction activities near protected monuments, is now sought to be amended so that public works could be allowed within the 100 m prohibited zone.



The Lok Sabha passed the amendments to the Act on January 3. But the Bill is yet to be cleared by the Rajya Sabha.

### **Pressures**

- Archaeological Survey of India (ASI) reveals that the pressure to bring in this amendment came when the ASI declined permission for a six-lane highway to come up on the Delhi-Kanpur highway near Akbar's tomb in Sikandra, Uttar Pradesh.
- In 2013, after a CAG report raised an alarm that 92 historical monuments had gone "missing" due to development activities around them, the ASI started a ground survey to verify them, and found that 21 had indeed become untraceable.

Citing a Cabinet note, Congress leader and Lok Sabha MP Shashi Tharoor informed Parliament recently that plans were afoot to construct a railway line next to Rani ki Vaw, an ancient step well in Patan, Gujarat, which had been recognised as a UNESCO World Heritage Site in 2014.

## General Studies-03

### Flood sensors planned at 16 spots

**News:** The Chennai Corporation is set to commission flood sensors in 16 locations across the city, boosting flood preparedness.

### **Beyond News**

The civic body has identified two locations in Tiruvottiyur zone, one in Madhavaram, four in Royapuram, two in Thiru-Vi-Ka Nagar, two in Anna Nagar, one in Teynampet, and four in Kodambakkam zone.

The flood sensors will give real time alerts to civic officials. Using the alerts, efforts will also be made to bale out water to prevent traffic congestion.

### **Drains at 32 locations**

- The civic body has also identified 306 vulnerable locations that reported water stagnation during the 2015 floods.
- They have constructed stormwater drains in only 32 locations. Work on linking some flood-prone areas with canals have also been taken up. More initiatives have to be taken to cope with floods.
- A topographic study will be done by the consultant. The estimated timeline for this study is 36 months. It is likely to be completed by December 2020.

### **Rajnath Singh launches nuclear technology-based diagnosis**

**Beyond News:** It has set up a molecular imaging with single photon emission computerised tomography (SPECT), positron emission tomography (PET-CT) and radio-nuclide therapy unit at a cost of around Rs. 15 crore.

### **Importance of SPECT**

- SPECT can conduct scans of bones, hepatobiliary, thyroid, parathyroid, MIBG, lung and also renal scans.
- It can also aid in lymphoscintigraphy, gastric emptying, gastrointestinal bleed diagnosis, gastroesophageal reflux, neurologic scans, blood volume analysis, infection studies, cisternogram, myocardial perfusion scan, testicular scan and others.

### **IGIB discovers a protein regulating melanoma growth, pigmentation**

**News:** Researchers at Delhi's CSIR-Institute of Genomics and Integrative Biology (IGIB) have for the first time identified a calcium sensor protein (STIM1) that independently regulates both skin cancer and pigmentation.

### **Beyond News**

- The STIM1 protein does so by activating two independent signalling pathways.
- Interestingly, different parts of the STIM1 protein activate the two independent signalling pathways that control melanoma growth and pigmentation.
- This opens up the possibility of developing drug molecules that target specific sites in the STIM1 protein to control tumour growth and regulate pigmentation.

While skin cancers account for third highest number of cancer associated deaths worldwide, perturbations in pigmentation pathways result in pigmentation disorders such as solar lentigo, melasma, vitiligo, and pityriasis alba.

Current therapeutic regimes are not efficient in alleviating pigmentation disorders.

**JANUARY-16 2018**

## **General Studies-02**

### **Aadhaar authentication through face recognition**

**News:** The Unique Identification Authority of India (UIDAI) said it will enable Aadhaar authentication using face recognition from July 1 onwards.

#### **Beyond News:**

- This feature will be used only in “fusion mode”, along with one more existing mode of authentication such as fingerprint, iris or one-time password (OTP).
- The decision has been taken ,**so that people facing difficulty in other biometric authentication (fingerprint and Iris) could easily authenticate**, UIDAI said in a statement, adding that some people are not able to biometrically authenticate due to their worn out fingerprints, old age or hard working conditions.
- The face authentication provides additional option for all residents to have inclusive authentication.
- UIDAI will release necessary details for implementation for AUAs by March 1, 2018. It will also provide software development kits that will have the ability to capture face image, check liveness, and create digitally signed and encrypted authentication input.

### **Poland eyes India mining sector**

**News:** Marek Magierowski, Polish Deputy Minister, Ministry of Foreign Affairs said that, Polish companies may be interested in getting into commercial mining in India provided the conditions are right.

#### **Beyond News:**

- Among Poland’s area of expertise was deep mining in copper and **coal**.
- Its other areas of interest include energy, food processing, defense and innovation.
- He also said they are not really promoting business here, but **they want to boost trade relations with India** which is a priority country for them.
- BCCI president said India and Poland had jointly etched out a roadmap for strengthening co-operation in areas like thick-seam underground coal mining, exploitation of gassy



seams , developing clean coal technologies and transfer of technology in deep coal mining from Poland to India.



### General Studies-03

#### First joint estimation of tigers in Sunderbans begins [Deck] The region hosts 75% of all big cats in the world

**News:** The first joint estimation of tigers in the Sunderbans, spread across India and Bangladesh, began on Monday, with a training workshop.

##### **Beyond News**

- Eminent tiger biologist Qamar Qureshi said the Sunderbans houses **the fifth largest tiger population in the world.**

#### Beat the heat with the world's smallest wearable device !

**News:** Scientists have developed the world's **smallest** wearable device - a wafer-thin, feather-light sensor - that can fit on a fingernail and precisely measure a person's exposure to ultraviolet (UV) light from the sun.

##### **Beyond News**

- Researchers said that, the broader goal **is to provide a technology platform that can save lives and reduce skin cancers** by allowing individuals, on a personalised level, to modulate their exposure to the sun.
- The device, as light as a raindrop, is powered by the sun and contains the world's most sophisticated and accurate UV dosimeter.
- The device called UV Sense was unveiled at the Consumer Electronics Show (CES) in Las Vegas.
- It is also an optimal location to measure exposure to the sun.

#### Drones to monitor beaches in Chennai

**News:** The Chennai City Police are making elaborate security arrangements in view of the huge crowd expected to throng the Marina Beach on the day of 'Kaanum Pongal' on Tuesday.

##### **Beyond News**

- Drones would be used for monitoring the crowd and tags would be tied around the hands of children to prevent them from getting lost.
- **Drones are being used for the first time to keep a watch on pickpockets and chain snatchers.**
- Barricades have been erected on the Marina and the Elliots beaches to avoid visitors from entering the sea. Lifeguards will also be posted to save people from drowning.
- Temporary watchtowers with public address systems have erected.

**JAN-17**

## **General Studies-01**

### **Megalithic era sarcophagus unearthed at Viyur**

**News:** A rare sarcophagus (stone coffin), said to be **2,000-year old from the Iron Age–Megalithic era**, was discovered from a rock-cut cave at Viyur village of Kollam, near Koyilandy, in Kozhikode district in Kerala.



#### **Beyond News**

- The coffin containing bone fragments was found during an excavation. So far, such a rare finding has been discovered only from two sites in **Kerala**.
- The bone fragments could be of either a man or a woman. They will be sent for **carbon dating** using accelerator mass spectrometry at the Beta Analytical Laboratory in California.
- Excavation at the site commenced after a **hemispherical rock-cut chamber** was discovered in a compound while flattening land using an earthmover.
- Different types of pottery, mostly **four-legged jars and iron implements**, were found in the cave.
- Sarcophagi was found in many archaeological sites in South India earlier. Some are adorned with a sculpture or inscription. But two types are usually found with bovine features or with legs.
- It can be confirmed that a rich Megalithic culture existed in the region following the discoveries of pre-Iron age civilisation earlier.

## General Studies-02

### SC condemns conduct of caste panchayats

**News:** Supreme Court said that, any collective attack by a khap panchayat on an adult for choosing to marry the person of their choice is absolutely illegal and condemned.

#### **Beyond News**

- Chief Justice of India Dipak Misra, heading a three-judge Bench, observed that an adult man and woman are free to marry. No society, no khap panchayat, no parent can impose their will on them.
- The apex court said it would not tolerate any manner of collective and regressive conduct by khap panchayat or such group of persons.
- The Centre said it supports the dignity of women and agreed with the court that the judiciary should fill the legislative vacuum left by a lack of law against honour killing.
- Amicus curiae and senior advocate referred to a recommendation by the Law Commission for a special penal law recognising honour killing as a crime.

### 460 Indians deported by the U.S in 2017

**News:** Tougher implementation of immigration laws in the U.S in the first year of Donald Trump presidency has resulted in 30 percent increase in arrests, compared to the previous year, but deportations have come down.

#### **Beyond News**

- While the overall number of undocumented people deported from the U.S in 2017 decreased from 2016, the number of Indians increased 460 were deported last year compared to 353 in 2016.
- In 2015, 311 undocumented Indians were deported from the U.S, according to the Immigration and Customs Enforcement (ICE).
- A report released by the administration linked its case for changing the immigration policy to national security and the ability of the immigrants to assimilate.
- An official speaking on background said that, 402 of the 549 people convicted of international terrorism-related charges in U.S. since September 11, 2001 were foreign-born.



## General Studies-03

### ‘Water scarcity may hit thermal power’

**News:** India’s thermal power plants, about 90% of which rely on fresh water for cooling, risk facing serious outages because of shortage of water, according to a new report by the World Resources Institute (WRI).



#### **Findings in the Report**

- About 40% of the country’s thermal power plants are facing great stress in terms of water availability, according to the report, defines water stress as the ratio of total water withdrawal over available supply.
- Between 2013 and 2016, 14 of India’s 20 largest thermal utility companies experienced one or more shutdowns due to water shortages and calculated that this cost the power producers more than ₹91 billion (\$1.4 billion) in potential revenue from the sale of power.
- According to the report, not only does high water stress result in equipment shutting down, it also results in a lower level of efficiency when it is running.
- When power plants rely on water sourced from scarce regions, they put electricity generation at risk and leave less water for cities, farms and families. Without urgent action, water will become a choke point for India’s power sector.
- WRI said that, freshwater-cooled thermal power plants that are located in high water-stress areas have a 21% lower average capacity factor, compared to the ones in low and medium water-stress areas.
- The WRI’s report predicts that this problem is set to worsen as India’s thermal power sector expands and demand for water from other sectors increases.
- It says that by 2030, 70% of India’s thermal power plants are likely to experience increased competition for water from agriculture, industry and municipalities.

### Chinese 'rainbow dinosaur' had iridescent feathers like hummingbirds

**News:** Scientists announced the discovery of a crow-sized, bird-like dinosaur with colorful feathers from northeastern **China** that lived 161 million years ago during the Jurassic Period.



## Beyond News

- They named it Caihong, the Mandarin word for rainbow.
- Microscopic structures in the exquisitely preserved, nearly complete fossil unearthed in Hebei Province indicated that it boasted iridescent feathers, particularly on its head, neck and chest, with colors that shimmered and shifted in the light, like those of hummingbirds.
- The discovery “suggests a more colorful Jurassic World than we previously imagined.

## Features of Caihong

- Using powerful microscopes, the scientists detected within the feathers the remnants of organelles called melanosomes responsible for pigmentation. Their shape determines the color.
- Caihong's feathers had pancake-shaped melanosomes similar to those of hummingbirds with iridescent feathers.
- Much of its body had dark feathers, but ribbon-like iridescent feathers covered its head and neck. While it possessed many bird-like characteristics, the researchers doubted it could actually get airborne.
- Caihong was a two-legged predator with a Velociraptor-like skull and sharp teeth, probably hunting small mammals and lizards. Caihong had fuzzy feathers and pennaceous ones, those that look like writing quills.

**JANUARY-18 2018**

## General Studies-01

### World's biggest flooded cave found in Mexico, explorers say

**News:** A group of divers has connected two underwater caverns in eastern **Mexico** to reveal what is believed to be the biggest flooded cave on the planet, a discovery that could help shed new light on the **ancient Maya civilization**.

## Beyond News

- The Gran Acuifero Maya (GAM), a project dedicated to the study and preservation of the subterranean waters of the Yucatan peninsula, said the 347-km cave was identified after months of exploring a maze of underwater channels.



- Near the beach resort of Tulum, the group found that the cave system known as Sac Actun, once measured at 263 km, communicated with the 83-km Dos Ojos system. For that reason, Sac Actun now absorbs Dos Ojos.
- GAM director and underwater archaeologist said that, the “amazing” find would help **to understand the development of the rich culture of the region, which was dominated by the Maya civilization before the Spanish conquest.**
- He also said that, it allows them to appreciate much more clearly how the rituals, the pilgrimage sites and ultimately the great pre-Hispanic settlements that we know emerged.
- The Yucatan peninsula is studded with monumental relics of the Maya people, whose cities drew upon an extensive network of sinkholes linked to subterranean waters known as cenotes.

## General Studies-02

### Geo-tagging to help keep PMAY in order

**News:** Geo-tagging of site location and periodic monitoring with photographs of work progress has reduced the leeway for malpractices in the implementation of the housing schemes under the Pradhan Manthri Awaz Yojana (PMAY).

### **Beyond News**

- The State-level monitoring team in Kerala has now recommended to the city Corporation to stop the release of funds to nine beneficiaries, after discrepancies were found in their geo-tagged data.
- The geo-tagging system involves marking the geographical coordinates of the site location as well as photographing of the progress of a given work.
- It has now been enabled for the PMAY scheme, under which funds are provided to build a house for those who already own land.
- The local body has completed geo-tagging of close to 800 houses, out of the 3,100 such beneficiaries in the first phase of the scheme in the Corporation.
- As per this scheme, the construction work should start afresh on the land that they own. Existing structures have to be demolished before the work begins.
- According to project officials, in geo-tagged photographs, it was noticed that some of them had just demolished a room of their old house and constructed a new one, while in another case, just the roof was redone.

## General Studies-03

### ‘Direct tax collections jump 18.7% this fiscal’

**News:** The tax department said that, direct tax collections during the first nine-and-a-half months of the current fiscal have risen by 18.7% to ₹6.89 lakh crore.



## Beyond News

- The collections till January 15, 2018, represent over 70% of the ₹9.8 lakh crore revenue target from direct taxes, the Central Board of Direct Taxes (CBDT) said in a statement.
- Gross collections (before adjusting for refunds) have increased by 13.5% to ₹ 8.11 lakh crore during April 2017 to January 15, 2018.
- Refunds amounting to ₹1.22 lakh crore have been issued during this period.
- CBDT said that, the growth rate of total gross collections has improved from 10% in Q1, to 10.3% in Q2, to 12.6% in Q3 and to 13.5% as on January 15, 2018.

## West Bengal rivers are not fit even for bathing, says report

**News:** A dip in the Ganges is, generally speaking, synonymous with the idea of purification. But that shall no longer be so in Bengal, where the river is so polluted that it is now officially unfit for bathing.

### Findings in the Report

- According to the latest State of Environment Report, published by the West Bengal Pollution Control Board (WBPCB), in 17 major rivers of the State, including the Ganges, the levels of coliform bacteria (found mainly in human faeces) are much higher than the permissible limit of MPN (most probable number) per 100 ml.
- The permissible limit as per the Central Pollution Control Board (CPCB) guideline is 500.
- The report states that several stretches of the Ganges, known as Bhagirathi and Hooghly in the region (two tributaries of the Ganges), have a total coliform count (TCC) much higher than the permissible level of 500.
- According to the WBPCB, compared with 2014, all the four main rivers of north Bengal recorded a significant increase in TCC, while the ones in south Bengal had TCC levels much higher than the permissible limit.



**Reason:** One of the reasons for such high TCC was the disposal of “untreated sewage.

## Terrorism erodes economy: Sushma Swaraj

**News:** Hitting out at the sponsors of international terrorism, India urged for greater consensus among countries for devising a global strategy.

## Beyond News

- Speaking at the plenary session of the 3rd Raisina Dialogue, External Affairs Minister Sushma Swaraj said that, terrorism is a major disruptor of the global economy and has delivered a jolt to the process of globalisation.
- **The 3rd annual Raisina Dialogue was launched by Israeli Prime Minister Benjamin Netanyahu** where he described terrorism as a major threat to the democracies in the twenty-first century.
- Continuing with the theme of ensuring safety for democracies, Ms Swaraj remarked that security and socio-economic developments, have pushed globalisation into a retreat.
- The Minister said that while international terrorism by Islamic State, which grew out of ungoverned territories, is dangerous, more dangerous.
- Ms Swaraj also pointed out that another emerging disruptor is the concern over maritime movement.

**JANUARY-19 2018**

## **General Studies-02**

### **Modi to visit Palestine in February**

**News:** Prime Minister Narendra Modi is expected to travel to the Palestinian capital of Ramallah on February 10, a diplomatic source has confirmed.

### **Beyond News:**

- The visit to the Palestinian territory is likely to be part of Prime Minister Modi's outreach to the Arab world, during which he will hold a meeting with the Palestinian President Mahmoud Abbas.
- This will be **the first time that an Indian Prime Minister will visit the Palestinian capital of Ramallah.**
- The visit was confirmed even as Israeli Prime Minister Benjamin Netanyahu is on the last leg of his trip to India.
- The official said that the trip indicates that India remains on track with its traditional stance on Palestine. Palestine had praised India's recent vote in the UN against the U.S. recognition of Jerusalem as the capital of Israel.
- The issue of Indian support to the two-state solution was also discussed during the meeting between Prime Minister Modi and Mr. Netanyahu.

## General Studies-03

### Agni-5 ballistic missile tested successfully

**News:** India successfully tested Agni-V, validating the long range surface-to-surface ballistic missile's reliability.

#### **Beyond News:**

- The Defence Ministry said in a statement that, this was the fifth test of the missile and the third consecutive one from a canister on a road mobile launcher. All the five missions have been successful.
- The flight performance of the missile was tracked and monitored by radars, range stations and tracking systems all through the mission.

#### **Agni-V:**

- Agni-V, with a range of over 5,000 km, is India's longest range ballistic missile and can reach most parts of China, making it the mainstay of India's triad to deliver nuclear weapons.
- The user associate test-flight of the missile has further boosted indigenous missile capabilities and deterrence strength of the country.
- Agni-V is the most advanced missile in the Agni series with new technologies incorporated in it in terms of navigation and guidance, warhead and engine.
- The missile is so programmed that after reaching the peak of its trajectory, it will turn towards the Earth to continue its journey towards the intended target with an increased speed due to the attraction of the Earth's gravitational pull, he said.
- Official added that, its path is precisely directed by the advanced on-board computer and inertial navigation system.



### India to set up \$350 mn fund for solar projects to meet renewable energy target

**News:** India will set up a \$350 million fund to finance **solar** projects, as the country steps up efforts to achieve its ambitious target of adding





175 gigawatts (GW) in renewable energy by 2022.

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### Beyond News:

- India will need at least \$125 billion to fund a plan to increase the share of renewable power supply in the country's grid by 2022, underlining the immense financing challenge ahead.
- The country, which receives twice as much sunshine as European nations, wants to make solar central to its renewable expansion.
- Installed renewable power capacity is currently about 60 GW, and India plans to complete the bidding process by the end of 2019/20 to add a further 115 GW of installed renewable energy capacity by 2022.
- It expects renewable energy to make up 40% of installed power capacity by 2030, compared with 18.2% at the end of 2017.
- Power ministry said in a statement that, India's Yes Bank Ltd. has committed to financing solar projects worth \$5 billion, while state-run NTPC Ltd. will contribute \$1 million to an ISA fund.

### Disaster warning system for Odisha by March

**News:** The Early Warning Dissemination System (EWDS), a project that aims at establishing a fool-proof communication system to disseminate disaster warning up to the community level, is expected to be commissioned by this March.

### Beyond News

- The EWDS had missed several deadlines before being fast-tracked recently.
- The EWDS is a **first-of-its-kind automatic public address system in the country**.
- Managing Director of the Odisha State Disaster Management Authority (OSDMA) said that, it will help the State to warn a vast population residing along its coast from the State headquarters through loud sirens from towers installed at 122 locations in the event of occurrence of natural disasters like a tsunami or cyclone.
- The EWDS for last mile connectivity is being implemented under a World Bank project.

### Static thermal imaging cameras to track elephant movement

**News:** The Forest Department will install permanent thermal imaging cameras at four places along forest boundaries in Coimbatore to track movement of wild elephants and to develop an early warning system.

### Beyond News

- The thermal imaging captured by the cameras will be sent to the control room of the Forest Department. This will help alert staff and residents in the locality about the animal movement.
- At present, the department is using two hand-held thermal imaging cameras that are used for anti-depredation works at night.

## Importance of Thermal imaging camera

- Thermal imaging camera capture the heat in the body of the animal. The hand-held cameras are very helpful in tracking presence of wild elephants at night, early morning and late evening when visibility is poor.
- The four places selected for developing the warning system had witnessed frequent movement of elephants.
- Installation of thermal imaging camera is expected to boost up the alert system at Madukkarai.
- After the installation of thermal imaging cameras, the Department has plans to create an early warning network where information on the movement of wild elephants animals can be shared to Forest staff and people in the conflict zone.

**JANUARY-20&21 2018**

### General Studies-01

#### Rockets recovered from open well are from Tipu era: Experts

**News:** A large number of unfired rockets, found in an open well at a farmhouse in Nagara village, Hosanagar taluk, have now been confirmed by experts to belong to the Tipu Sultan era.



#### **Beyond News**

- Assistant Director of the Department of Archaeology, Museums and Heritage, confirmed that 102 unused rockets were found in varying sizes in April 2017, during the de-silting of an open well on land belonging to Nagaraja Rao, a farmer from Nagara village.
- They concluded that these items were unused war rockets belonging to the 18th century. As Nagara was an important administrative centre of the Mysore state, and Tipu had established a mint and an armoury here, they concluded that the rockets belonged to the Tipu Sultan period.
- After the fourth Anglo-Mysore War, there was the chance that Tipu's army, stationed in Nagara, could have dumped the rockets in the well to prevent them from getting into the hands of the East India Company.
- Both Hyder Ali and Tipu Sultan had used rockets in the wars they fought against the East India Company. While wooden or paper casing was used for rockets back then, iron casing was used for the first time by the Mysore army.

## Features of Rockets:

- The distinctive feature of the rockets is that they are filled with black powder (a mixture of sulphur, charcoal, and potassium nitrate) and encased in iron. They are seven to 10 inches long and 1 to 3 inches in diameter.
- The rockets were corroded owing to continuous exposure to water.
- Using iron tubes to store the propellant gave the rockets higher thrust and longer range.
- In addition, using soft iron increased the capacity to inflict greater damage on the enemy.

## General Studies-02

### India admitted to Australia Group

**News:** India joined the Australia Group saying that the membership will be mutually beneficial.

### **Beyond News**

- The Ministry of External Affairs (MEA) stated that India's entry into the group which aims to prevent proliferation of biological and chemical weapons, will ensure a more secure world.
- The Australia Group decided to admit India as its 43rd participant.
- Its entry would be mutually beneficial and further contribute to international security and non-proliferation objectives.
- Australia Group said that, India's membership will help to counter the "spread of materials, equipment and technologies that could contribute to the development or acquisition of chemical/biological weapons.
- Diplomats said the entry is a show of support from the international community for India's non-proliferation records.
- India joined the Missile Technology Control Regime (MTCR) in 2016 and the Wassenaar Arrangement (WA) last year.
- It is understood that the membership will also boost India's membership bid for the Nuclear Suppliers Group which is being opposed by China.

### Centre launches initiative to make 100 websites accessible to persons with disabilities

**News:** In an initiative to empower Persons with Disabilities, 100 websites of various State Governments/UTs under Accessible India Campaign were launched by the Union Minister for Social Justice and Empowerment on the occasion of 'National Conference on Improving Accessibility'.



## Aim:

- The aim of the conference was to sensitize and bring awareness among different stakeholders including the officials of state government on accessibility in the context of recently enacted Rights of Persons with Disabilities, 2016.
- The aim of the campaign is to make a barrier free environment for persons with disabilities all over the country for safe, dignified life of Persons with Disabilities.

## Beyond News:

- The Ministry has so far organised around 5800 camps for distribution of assistive device to Divyangjans.
- Accessible Website Design Principles include providing appropriate alternative text, Caption video, transcripts for audio, making all documents (e.g., PDFs) to be accessible and make sure content is structured, clearly written and easy to read.

**The Department of Empowerment of Persons with Disabilities (Divyangjan)** initiated a 'Website Accessibility Project' for State Government/Union Territories under Accessible India Campaign through ERNET India, an autonomous scientific society under the Ministry of Electronics & Information Technology (MeitY), to make total 917 websites accessible and providing funds for the same.

## General Studies-03

### The sun powers irrigation pump sets here

**News:** The State government's ambitious project 'Surya Raitha', which helps farmers to generate electricity to run their irrigation pump (IP) sets, was inaugurated at Harobele in Kanakapura taluk of Ramanagaram district in Karnataka.

## Beyond News

- **Surya Raitha, a first-of-its-kind project in the country**, is being implemented on a pilot basis in the district.
- It also ensures earnings to farmers by selling excess energy generated through solar panels to Bangalore Electricity Supply Company, he said.
- The government is committed to making **Karnataka** open defecation-free and supplying safe and pure drinking water in rural areas, Mr. Patil said.
- Minister for Energy said the State government was tapping renewable solar energy sources to increase the level of consumption of green energy in Karnataka.



- The department has set up the world's largest solar park at Pavagada in Tumakuru district.
- Surya Raitha was implemented at a cost of ₹24 crore at Harobe. Currently, 310 IP sets are getting electricity under the scheme.

**JANUARY-22&23 2018**

## **General Studies-02**

### **WEF 2018: Modi meets Swiss President Alain Berset**

**News:** Prime Minister Narendra Modi on January 22, 2018, met Swiss President Alain Berset and discussed ways to deepen bilateral ties on the sidelines of the World Economic Forum (WEF) annual summit.

#### **Beyond News**

- Mr. Berset said the discussions marked the meeting of the biggest and the oldest democracies in the world.
- Two leaders had productive discussions on steps to further deepen our bilateral cooperation built upon our shared values of democracy and diversity.
- Sources said the two leaders are also believed to have discussed the progress on automatic exchange of tax information. A legislation in this regard was passed by the Swiss Parliament, following which banks and financial institutions have begun collecting data for the first exchange that is to begin from next year.



Negotiations on EFTA (European Free Trade Association) trade pact and the bilateral investment protection agreement were also discussed, among various business and trade matters, they added.

## **General Studies-03**

### **Sensor-based technology to testify genuineness of organic crops**

**News:** Information technology application can now help ensure genuineness of organic crops.

## Beyond News

- Already, various foreign countries have started adopting this technology that involves use of sensors in the soil, where the crop is grown, to record various parameters, including the nature of inputs provided.
- The data from the sensors would be incorporated in the form of a bar code on the package containing the organic food.
- Consumers could read the bar code using the relevant app in their mobile phones to confirm that what they are eating is genuinely organic.
- In addition to this, they would also know the source of their produce such as the place of cultivation and the farmers' groups that have grown the crop.
- This technology is set to be tried on a pilot basis in Karnataka for the first time.

It may be tried on paddy and corn, to begin with.

Project would need a minimum of 1,000 acres so that the financial burden would not be huge on farmers.

## NGO on a mission to rejuvenate Tamirabharani

**News:** In an effort to rejuvenate the Tamirabharani river that plays a critical role in the livelihood, culture and the economy of south Tamil Nadu, the Environmentalist Foundation of India (EFI) has begun an extensive outreach programme involving the communities living along the river.



## Beyond News

- The NGO will adopt 37 villages from Papanasam to Cheranmadevi and will conduct weekend programmes for people from all walks of life.
- The activities planned include garbage removing, wall painting, planting of saplings and their maintenance, conducting a river festival once in every six months.

The Tamirabharani, which is the only perennial river that originates and ends in Tamil Nadu, is also the site of an ancient civilisation that excelled in education partly because of the surplus from agriculture.

## Police struggle to keep pace with cyber thieves



**News:** The city police of Chennai have filed more than 1,000 cases of credit card fraud and over 2,000 cases of debit card fraud in the last two years.

## Beyond News

Even though complaints have been pouring in on a daily basis, not even a single arrest has been made in the past year.

However, the stakeholders have somehow managed to recover 25% of the money lost in the last two years.

A status report released by the Central Crime Branch (CCB) recently stated that over 3.58 crore was recovered and returned to the victims by initiating quick action on the complaints.

Phishing, a common form of online fraud, is typically carried out by e-mail or instant messaging, and often directs users to enter details at a website, although phone contact has also been used at times.

According to police, after getting the details, the scammers make payments to mobile phone and online payment service providers, which are quite difficult to trace or retrieve.

## Now, an app to report roadkill in wildlife habitats

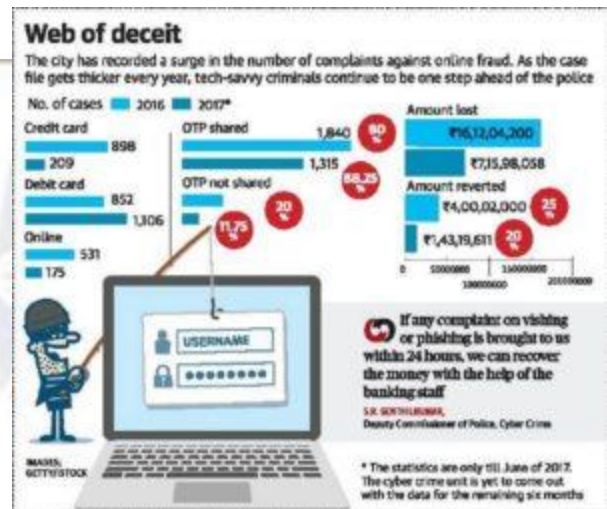
**News:** A mobile-based application, 'Roadkills', launched on January 21 by the Wildlife Conservation Trust, will help citizens report such wildlife deaths by uploading geotagged photographs to a public forum.

## Beyond News

The data generated can be used to identify crucial road or rail stretches that urgently require mitigation measures.

With the resulting geotagged photographs, users can also include what taxon the animal belongs to (bird, mammal, reptile or amphibian), the species' name (if known) and the area where the roadkill was seen.

The information generated from the application can help identify crucial sections of roads or



railway lines where animal deaths are high to pinpoint regions that require urgent mitigation measures.

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The data can also help determine what species are more at risk on specific road or rail stretches and plan the ideal mitigation measures suited for the location – from underpasses or overpasses for large mammals to canopy bridges for arboreal ones, such as monkeys.

### **Pollution in Yamuna hits water supply**

**News:** Delhi Jal Board said that, water supply in almost all parts of the Capital will be affected as increase in pollution levels in the Yamuna led to water treatment plants working under capacity.

**Beyond News:** Due to rise in pollution level in the Yamuna and reduced supply of raw water in the carrier lined channel [CLC] by Haryana, production of drinking water has been curtailed at all water treatment plants.

**Ammonia level:** The level of ammonia in raw water had increased to 1.6 parts per million (ppm), while the DJB can only treat water with an ammonia level of 0.9 ppm or lower.

**JANUARY-24 2018**

## **General Studies-01**

### **Earth's heat loss melts Greenland's ice sheet**

**News:** Researchers have found that the loss of heat that comes up from the interior of the Earth melts the Greenland's ice sheet from below and triggers the sliding of glaciers towards the sea.

#### **Beyond News**

- Greenland's ice sheet is becoming smaller and smaller.
- The melting is taking place with an increased strength and at a speed that no models have previously predicted.
- As a result, the deep bottom water of the north-eastern Greenland's fjords is also warming up, the research showed.
- North-East Greenland has several hot springs where the water becomes up to 60 degrees warm and, like Iceland, the area has abundant underground geothermal activity.

## Findings in a Study

- In the study, appearing in the journal Scientific Reports , the team focused on an isolated basin in the fjord with a depth range between 200 and 340 metre and measured how the deep water is heated over a 10-year period.
- Based on the data, researchers estimated that the loss of heat from the Earth's interior to the fjord is about 100 MW m<sup>-2</sup> (milli Watt per square metre).
- This corresponds to a 2 megawatt wind turbine sending electricity to a large heater at the bottom of the fjord all year round.
- If the Earth releases heat to a fjord, heat also seeps up to the bottom part of the glaciers.
- The researchers said that, this means that the glaciers melt from below and thus slide more easily over the terrain on which they sit when moving to the sea.

## General Studies-02

### PM calls protectionism as dangerous as terrorism

Sending out a strong message against protectionism and inward-focused economic policies, Prime Minister Narendra Modi said that, such tendencies can be as dangerous as terrorism and climate change as he pitched for creating a “heaven of freedom.”

- Mr. Modi, became **the first Indian Prime Minister to address the World Economic Forum's annual summit** in two decades.
- He talked about grave concerns facing the world, including terrorism and climate change.



Asserting that India is proud of its democracy and diversity, he said that. the country has always contributed to global peace as well as promoted values of integration and unity.

He also emphasised that a predictable, stable, transparent and progressive India is good news in an otherwise uncertain global environment.

### U.S. asks Pakistan to expel Taliban leaders

**News:** The United States has asked Pakistan to immediately arrest or expel Taliban leaders who are carrying out terror attacks across the border in Afghanistan, days after the militant group attacked a landmark hotel in Kabul that left 22 people dead.



## Beyond News:

- The terse White House statement came after the Taliban claimed responsibility for a major terror attack at the Inter-Continental Hotel in Kabul on Saturday that killed at least 22 people, including 14 foreigners and eight Afghans.
- Pakistan is facing mounting pressure from the U.S. to take action against terror groups and dismantle their safe havens.
- A spokesman for the Afghan Interior Ministry said that after the deadly siege ended on Sunday, security forces also defused a vehicle full of explosives near the site of the attack.

## General Studies-03

### Moss that can remove lead from water identified

**News:** Scientists have identified a type of moss that can efficiently absorb a large amount of lead, providing a green alternative for decontaminating polluted water and soil.

## Beyond News:

- Lead-contaminated water is a serious environmental concern that has recently proved to be disastrous when left untreated.
- Compounding the problem, the typical way to remove lead or other heavy metals from water requires fossil fuels and a tremendous amount of energy.
- As an alternative to these typical processes, phytoremediation is a method that uses photosynthesising organisms to clean up soil or water contamination.



## Phytoremediation-based removal method

Researchers from RIKEN Center for Sustainable Resource Science (CSRS) in Japan began their search for a phytoremediation-based removal method by looking at a moss (*Funaria hygrometrica*) that is known to grow well in sites contaminated with metals like copper, zinc, and lead.

After 22 hours of exposure to different concentrations of metals, mass-spectrometer analysis showed that the moss cells had absorbed lead up to 74 per cent of their dry weight, which is quite high and much higher than any of the other metals.

Analysis showed that within the moss protonema cells, more than 85 per cent of the lead had accumulated in the cell walls, with smaller amounts being found in organelle membranes and inside the chloroplasts where photosynthesis occurs.

This means that there is something special about the cell walls of this species of moss that allows them to thrive in environments that are toxic to other plants.

**JANUARY-25 2018**

## **General Studies-02**

### **New Delhi brims with 'Look East' vibes**

**News:** Symbolism and ceremony will mark the 25th year commemorative summit of the ASEAN-India dialogue partnership, but officials say security issues in the Indo-Pacific will be the focus of discussions among the 10 leaders of the Association of South East Asian Nations and Prime Minister Narendra Modi.

#### **Beyond News:**

- "Maritime Cooperation & Security", the theme during the Leaders' Retreat, will find "prominent mention" in the joint statements.
- The leaders will be hosted at the Rashtrapati Bhavan for lunch, followed by the traditional "Retreat" where leaders will meet informally for two hours.
- On Friday, they will officiate as joint chief guests at the Republic Day parade.

#### **Three 'C's:**

- The ASEAN-India joint statement, on the theme of "Shared Values and Common Destiny" will focus on the "three Cs **of connectivity, commerce and culture**", along with the issues of maritime security, cybersecurity and cooperation on fighting terrorism, according to an official briefing ahead of the summit.
- Among them is the Rohingya issue, with the repatriation of refugees from Bangladesh being delayed after many including the UN cited a lack of guarantees for their safety in Myanmar.
- However, the ASEAN-India grouping may find the issue too sensitive to broach in any formal way with Aung San Suu Kyi.



- India's difficulties with the 16-nation Regional Comprehensive Economic Partnership (RCEP) will also be on the agenda for talks, as most ASEAN countries are keen to conclude the negotiations by 2018-end.

## First India-designed vaccine passes WHO test

**News:** For the first time, a vaccine conceived and developed from scratch in India has been “pre-qualified” by the World Health Organisation.

### **Beyond News**

- The Rotavac vaccine, developed by the Hyderabad-based Bharat Biotech Limited last year, was included in India's national immunization
- To be “pre-qualified” means that the vaccine can be sold internationally to several countries in Africa and South America.
- While several vaccines from India have been pre-qualified, this is the first that was entirely developed locally and, according to experts, is a sign that there is a credible industrial, scientific and regulatory process in place to develop vaccines in India.

### **Rotavac vaccine**

- The Rotavac vaccine protects against childhood diarrhoea caused by the rotavirus and was built on strain of the virus isolated at the the All India Institute of Medical Sciences over 30 years ago.
- The Pune-based Serum International also has developed a rotavirus vaccine called Rabishield that has also been included in India's immunisation programme.
- Rotavirus is responsible for an estimated 36% of hospitalisations for childhood diarrhoea around the world and for an estimated 200,000 deaths in low- and middle-income countries.

## India ranks 177 out of 180 in Environmental Performance Index

**News:** India is among the bottom five countries on the Environmental Performance Index 2018, plummeting 36 points from 141 in 2016, according to a biennial report by Yale and Columbia Universities along with the World Economic Forum.

### **Beyond News**

- While India is at the bottom of the list in the environmental health category, it ranks 178 out of 180 as far as air quality is concerned.
- Its overall low ranking — **177 among 180 countries** — was linked to poor performance in the environment health policy and deaths due to air pollution categories.
- The report was released on the sidelines of the ongoing World Economic Forum in Davos, Switzerland.



## Findings in the Report

- It said deaths attributed to ultra-fine PM2.5 pollutants have risen over the past decade and are estimated at 1,640,113 annually in India.
- The report said that, despite government action, **pollution** from solid fuels, coal and crop residue burning, and emissions from motor vehicles continue to severely degrade the air quality for millions of Indians.
- The 10th EPI report ranks 180 countries on 24 performance indicators across 10 categories covering environmental health and ecosystem vitality.
- The EPI said air quality remains the leading environmental threat to public health.

### General Studies-03

#### New 'smart windows' can darken when heated, produce electricity

**News:** Scientists have discovered a new material for next-generation smart windows that not only darken automatically when the sun is too bright but also convert **solar** energy into electricity.



#### **Beyond News**

- Researchers at the Lawrence Berkeley National Laboratory (Berkeley Lab) in the US found a form of perovskite that works well as a stable and photoactive semiconductor material that can reversibly switch between transparent and opaque state.
- It can essentially change from one crystal structure to another when we slightly change the temperature or introduce a little water vapour.
- When the material changes its crystal structure, it changes from transparent to non-transparent.
- Its unique properties, high efficiency rates, and ease of processing have made it one of the most promising developments in solar technology in recent years.
- The material is triggered to transition from transparent to non-transparent by applying heat.

**JANUARY-26 2018**

### General Studies-02

## Delhi Declaration calls for joint fight against terror.

**News:** Counter-terrorism, identity security, military cooperation, and bilateral financial support were discussed in official level talks with leaders from ASEAN countries held on the sidelines of the ASEAN-India Commemorative Summit held to celebrate the 25th anniversary of the establishment of sectoral dialogue between two sides.



- The ASEAN-India Commemorative Summit also came out with a comprehensive statement targeting terrorism and agreed to uphold freedom in the maritime domain.

### **Counter-terrorism**

- A common topic at all the discussions that Prime Minister Modi participated was counter-terrorism.
- Focusing on the presence of the Islamic State and other forms of radicalism in the region, a joint statement, titled Delhi Declaration, issued after the plenary session, supported a common approach to counter terrorism and sought a comprehensive approach to combat terrorism through close cooperation by disrupting and countering terrorists, terrorist groups and networks.
- It includes countering cross border movement of terrorists and foreign terrorist fighters and misuse of Internet including social media by terror entities.
- Out of all the countries of ASEAN region, Philippines had the most serious threat from the Islamic State in the last few years and the bilateral discussion focused on this aspect.

## General Studies-03

### Chinese scientists break key barrier by cloning monkeys

#### **News**

- Researchers at the Institute of Neuroscience in Shanghai have cloned monkeys using the same technique that produced Dolly the sheep two decades ago, breaking a technical barrier that could open the door to copying humans.



#### **Beyond News**

- Zhong Zhong and Hua Hua, two identical long-tailed macaques, were born eight and six weeks ago, making them the first primates the order of mammals that includes monkeys, apes and humans to be cloned from a non-embryonic cell.
- It was achieved through a process called **somatic cell nuclear transfer (SCNT)**, which involves transferring the nucleus of a cell, which includes its DNA, into an egg which has had its nucleus removed.
- Researchers said their work should be a boon to medical research by making it possible to study diseases in populations of genetically uniform monkeys.

### ‘Vehicular emission a major cause for pollution on Bhogi’

**News:** The Puducherry city in Tamil nadu witnessed an increase in air pollution on Bhogi this year when compared with a normal day.

#### **Bhogi day:**

- Bhogii is the first day of the four-day Pongal festival. According to the Gregorian calendar it is normally celebrated on 13 January but sometimes it is celebrated on 14 January. In Tamil Calendar, this corresponds to last day of the Tamil month Maargazhi. It is a festival celebrated widely in [Tamil Nadu](#), [Maharashtra](#), [Andhra Pradesh](#) and [Telangana](#).



#### **Beyond News:**

- According to data available with the Puducherry Pollution Control Committee (PPCC), the concentration of particulate matter was found to be slightly higher on Bhogi day when compared with a normal day.
- The air pollution levels and concentration of particulate matter were monitored at three locations in the city on a normal day (a day before Bhogi) and during the celebrations.
- The results revealed that the concentration of particulate matter and sulphur dioxide was found to be slightly higher on the Bhogi day.

#### **Reasons:**

- This may be because of sporadic activity of burning of unwanted old articles/waste/debris for a short period of time.
- An official of the Department of Science, Technology and Environment said that, vehicular emission is one of the major causes of the pollution as high humidity, foggy conditions and low wind speed were not favourable for easy diffusion of pollutants.



## **‘Solar smart tree’ crops up on Corporation premises.**

**News:** With a view to tapping solar energy, the Thoothukudi Corporation in Tamil nadu has set up a ‘solar smart tree’ which will also facilitate a Wi-Fi hot spot and monitor air quality on the premises.

### **Beyond News:**

- After Coimbatore, Thoothukudi has become the second corporation to implement this Rs. 3.5-lakh project.
- Thoothukudi is one of the 100 cities and towns selected by the Ministry of Urban Developmen under Smart City Mission.
- The ‘smart tree’ has a panel to tap solar energy and it can power six LED lights with a 12 hour backup. A small lawn with a stone bench in a shaded place has been planned around the ‘smart tree’ for visitors.



## **‘Air pollution not just confined to Delhi-National Capital Region’**

**News:** The Supreme Court sounded the alarm on the bane of pollution spreading across the country, urging authorities to not limit their efforts at getting rid of toxicity in Delhi-NCR alone.

### **Beyond News:**

- A Bench observed that cities like Patna and Raipur are probably more polluted than Delhi-NCR.
- The court asked the Centre to sit up and notice the pollution problems in two-tier cities and formulate an action plan to prevent and combat the rising graph of pollution.
- The Centre submitted that to ensure compliance with the orders passed by the apex court from time to time and for effective implementation of the actions prescribed in the Comprehensive Action Plan, the Central Pollution Control Board has been requested to issue appropriate directions under the **Environment Protection Act, 1986**.
- These directions have been issued to stakeholders in the Centre and Delhi NCR States, that is, Uttar Pradesh, Haryana and Rajasthan, for undertaking necessary measures for meeting the timelines as prescribed in the Comprehensive Action Plan.

**Reasons:** Experts have blamed stubble burning by farmers, brick kilns, construction, vehicular pollution, firecrackers and hazardous industries as the main sources of pollution.

**JANUARY- 27 2018**

## **General Studies-01**

### **Fossil shows modern humans left Africa earlier than thought**

**News:** Scientists have announced the discovery of a fossilised human jawbone in a collapsed cave in Israel that they said is between 1,77,000 and 1,94,000 years old.



### **Beyond News**

- If confirmed, the find may rewrite the early migration story of our species, pushing back by about 50,000 years the time that Homo sapiens first ventured out of Africa.
- Previous discoveries in Israel had convinced some anthropologists that modern humans began leaving Africa between 90,000 and 120,000 years ago. But the recently dated jawbone is unravelling that narrative.

### **Findings**

- The upper jawbone which includes seven intact teeth and one broken incisor, provides fossil evidence that lends support to genetic studies that have suggested modern humans moved from Africa far earlier than had been suspected.
- By dating burned flint flakes found at the site, archaeologists had determined that it was occupied **2,50,000 to 1,60,000 years ago**, during an era known as the Early Middle Palaeolithic.
- Evidence, including bedding, showed that the people who lived there used it as a base camp.
- There scientists were able to assess whether the bone belonged to a **modern human or a Neanderthal**, thought to have also occupied the region during that time period.
- Using high resolution micro-CT scanning, Mr. Weber created a 3D replica of the upper left maxilla that allowed him to investigate its surface and, virtually, to remove enamel from the teeth.
- He then performed a morphological and metric test that compared the Misliya fossil with about 30 other specimens, including fossils of Neanderthals, Homo erectus, more recent Homo sapiens, and other hominins who lived in the Middle Pleistocene in Asia, Africa Europe and North America.
- The team dated the tooth dentin and enamel, the sediment stuck to the upper jaw, and tools found near the fossil.
- Together, the techniques put the **jawbone at between 177,000 and 194,000 years old**, in line with what was already known about the period during which the cave was inhabited.



## General Studies-02

### India should be pro-active: ASEAN

**News:** Ministry of External Affairs (MEA) said that, all leaders at the just concluded ASEAN-India Commemorative Summit had urged India to play a proactive role in the Asia-Pacific region.



### **Beyond News**

- In an official statement at the conclusion of two days of diplomatic engagements that included the Summit and the celebrations of the Republic Day where the ten ASEAN leaders were Guests of Honour.
- Secretary in charge of eastern affairs in the MEA Preeti Saran said that, "All the leaders felt that India is a very important component of peace, stability and prosperity of the Indo-Pacific region."
- The official statement complements Prime Minister Narendra Modi's comments that the Indo-Pacific region will be "indispensable" India's future.

### **Growing presence**

- The comments from the Prime Minister and the MEA officials are significant as they come just months after India joined the quadrilateral grouping of Australia, Japan and the U.S. for maintaining freedom of navigation in the Asia-Pacific region.
- During the summit, India announced 1,000 PhD fellowships in the IITs for students from the ASEAN countries.
- Apart from countering 'traditional and non-traditional' threats to freedom of navigation, India plans to work closely with Malaysia and Indonesia on handling radicalisation. A conference on de-radicalisation will be held soon, said the official.

## General Studies-03

### Robotic technology deployed to test railway bridges.

**News:** The Southern Railway has deployed a Robotic Remote Operated Vehicle to assess the strength of bridge substructures under water.





## Beyond News:

- The new technology provides accurate images and data of damage such as erosion or formation of cavities on pillars under water.
- Earlier, bridge engineers deployed divers who carried cameras to check the stability of bridges and take photographs of any damage. But the process was not only time-consuming but not accurate as well.

## Robotic technology:

- Railways officials said that the robotic technology produced desired results when put to use in Pamban bridge connecting Rameswaram to the mainland and Bhavani river bridge in Mettupalayam.
- Impressed with the results, a high-level safety review committee has recommended that a trial be conducted in the Yamuna river bridge in New Delhi and the technology be deployed across the railway network.
- The findings are accurate and corroborated with photographs and videos.
- They are now able to get the dimensions and exact location of cavities for corrective measures.

**JANUARY-28&29 2018**

## General Studies-01

### 10,000-year-old crayon found in Britain

**News:** Archaeologists have discovered in Britain one of the earliest examples of crayon possibly used by our ancestors 10,000 years ago for applying colour to their animal skins or for artwork.

## Beyond News

- The ochre crayon was discovered near an ancient lake, now blanketed in peat, near Scarborough in North Yorkshire.
- An ochre pebble was found at another site on the opposite side of the lake.
- Ochre is an important mineral pigment used by prehistoric hunter-gatherers across the globe.
- The findings suggest people collected ochre and processed it in different ways during the Mesolithic period.



The latest discoveries helped further our understanding of Mesolithic life.

## General Studies-02

### Plea to exclude SC/ST creamy layer from quota

**News:** The Supreme Court will hear a petition to exclude the affluent members, or the creamy layer, of the Scheduled Castes and Scheduled Tribes from the benefits of reservation.

#### **Beyond News:**

- A Bench will hear the petition which argues that the rich among the SCs/STs are “snatching away” the benefits, while the deserving and impoverished continue to “bite the dust.”
- This is the first time a petition has been filed urging the Supreme Court to introduce the creamy layer concept for the SCs/STs.
- In 1992, a nine-judge Bench of the court in the Indra Sawhney case, or the Mandal case as it was popularly known, upheld the caste-based reservation for the OBCs as valid.
- The petition argues that no class or caste remained homogeneously backward across time. Only the backward portion of castes included in the list of SCs/STs alone are constitutionally entitled to the benefits of reservation.

## General Studies-03

### Sensors in Andamans to monitor earthquakes

**News:** The Indian Tsunami Early Warning System (ITEWS) of the Indian National Centre for Ocean Information Services (INCOIS) is in the process of setting up an elaborate system of sensors on the Andaman & Nicobar Islands for real-time monitoring of earthquakes.

#### **Beyond News:**

- Strong Motion Sensors with Global Positioning Systems (GPS) have been installed at 28 locations on the islands.
- Three more ‘cabins’ housing the sensors deep in the forests are awaiting permission from the environment and forest departments.
- The plan was to have such sensors at 35 locations. These would be put inside six-by-six metre structures.
- They would be interconnected and would have a satellite-linked facility to enable scientists here to monitor minute land mass movements and seismic data in real-time and be in a position to get a better estimate of the impact and act quickly.
- Eight of the sensor stations had been linked via satellite, while the remaining were recording data, which could be accessible once they were interconnected.

- This was likely to happen in a couple of months. Four more sensor stations were in the pipeline.

## Tsunamigenic quakes

- The ITEWS comprises a real-time network of seismic stations, tsunami buoys and tide gauges to detect tsunamigenic earthquakes and to monitor tsunamis.
- The real-time data is collated at INCOIS in collaboration with the Indian Meteorology Department, the National Institute of Ocean Technology, the Survey of India and international sources.
- It detects globally occurring earthquakes of 5 magnitude and above within 5-10 minutes of the event.

## Cambodia backs anti-terror efforts

**News:** Prime Minister Narendra Modi and his Cambodian counterpart, Samdech Hun Sen, held talks to boost ties in key areas of defence, security and counter-terrorism.

## Beyond News

- The two leaders called for concerted global efforts to eliminate terrorism, including blocking sources of terror financing and dismantling terrorist bases.
- After the talks, the two countries inked four pacts, including the one to improve cooperation in the prevention and investigation of crimes and legal assistance in criminal matters and another on a line of credit from India to finance Cambodia's Stung Sva Hab water resources development project for \$36.92 million.



## Defense programmes

- Expressing satisfaction at the current state of bilateral defence ties, including ship visits and training programmes, the two leaders agreed to further enhance ties, including through exchanges of senior-level defence personnel and capacity-building projects.
- Both sides expressed a keen interest in enhancing cooperation in maritime domain, including preservation of marine and coastal environment, anti-piracy cooperation, security of sea lanes of communication to maintain peace and ensure safety and security of navigation in the Indo-Pacific Region, and supported complete freedom of navigation and overflight and pacific resolution of maritime issues based on international law.



- Reaffirming their resolve to fight terrorism, the two leaders affirmed that those responsible for committing, abetting, organising and supporting terrorist acts must be held accountable and be punished.

**JANUARY-30 2018**

### **General Studies-03**



#### **Impose heavy penalty for burning agricultural waste, says Economic Survey**

**News:** Economic Survey said heavy penalties should be imposed for burning agricultural waste, and more incentive for farmers is needed to prevent alarmingly poor air quality in Delhi-NCR and adjoining areas.

#### **Beyond News**

- Besides, implementation of congestion pricing, expansion of public buses, phasing out of old vehicles as also coordination across agencies and governments can prevent the city turning into a gas chamber, especially during winters, the survey noted.
- Citing various reports according to which Delhi accounts for one of the unhealthiest cities in the world in terms of air pollution, the survey said effective actions suggested by National Green Tribunal, the Supreme Court and others call for strict enforcement through heavy penalties on agricultural waste burning and incentive payments to farmers.
- The survey noted that some 35 million tonnes of rice paddy in three adjoining states (Punjab, Haryana and Western UP) are burnt in late October, whose plumes drift eastward, and seasonal load from other sources, including fire crackers during Diwali are top reasons for Delhi's poor air quality.
- Besides, vehicular emissions add about 23-28 per cent from trucks, buses, cars, three-wheelers and two-wheelers.

#### **Solutions**

- Suggesting ways to curb air pollution, the survey called for use of technologies to convert agricultural waste into usable concentrated fodder or bio-fuels, development and implementation of business models with private sector and communities and incentives for shifting to non-paddy crops, among others.

## Bus-sized dinosaur fossil dug up in Egyptian desert

**News:** Scientists have unearthed in a Sahara Desert oasis in **Egypt** fossils of a long-necked, four-legged, school bus-sized dinosaur that lived roughly 80 million years ago, a discovery that sheds light on a mysterious time period in the history of dinosaurs in Africa.

### **Mansourasaurus:**

- Researchers said that the plant-eating Cretaceous Period dinosaur, named *Mansourasaurus shahinae*, was nearly 33 feet, weighed 5,000 kg and was a member of a group called titanosaurs that included Earth's largest-ever land animals.
- Like many titanosaurs, Mansourasaurus boasted bony plates called osteoderms embedded in its skin.
- Mansourasaurus, which lived near the shore of the ancient ocean that preceded the Mediterranean Sea, is one of the very few dinosaurs known from the last 15 million years of the Mesozoic Era, or age of dinosaurs, on mainland Africa.
- Madagascar had a separate geologic history.
- The scientists recovered parts of its skull, lower jaw, neck and back vertebrae, ribs, shoulder and forelimb, back foot and osteoderms.
- This, in turn, demonstrates for the first time that at least some dinosaurs could move between North Africa and southern Europe at the end of the Mesozoic, and runs counter to long-standing hypotheses that have argued that Africa's dinosaur faunas were isolated from others during this time.



## Coral reefs get sick from plastic waste: study

**News:** Billions of bits of plastic waste are entangled in corals and sickening reefs from **Thailand** to Australia's Great Barrier Reef.

### **Beyond News**

- The trash is another pressure on corals, already suffering from over-fishing, rising temperatures caused by climate change and other pollution.
- Numbers would rise by 40 percent by 2025 as marine pollution gets steadily worse. The plastic increases the likelihood of disease





about 20 times, to 89 percent for corals in contact with plastics from four percent in comparable areas with none.

- Trash may damage the tiny coral animals that build reefs, making them more vulnerable to illness. And bits of plastic may act as rafts for harmful microbes in the **oceans**.
- Scientists were shocked to find plastic even in remote reefs.
- The link between disease and plastic may well apply to other reefs such as in the Caribbean and off Africa, and may be harming other life on the ocean floor such as sponges or kelp, Lamb said.
- The presence of plastics seemed especially to aggravate some common coral afflictions, such as skeletal eroding band disease.
- The scientists urged tougher restrictions on plastic waste. In December, almost 200 nations agreed to limit plastic pollution of the oceans, warning that it could outweigh all fish by 2030.

### Railways decides to run cleaner and faster trains.

**News:** The Railways is learnt to have tasked officials in the Research Designs & Standards Organisation and coach production units with the mission of developing new design coaches that will be faster, reliable and comfortable to the passengers.

### **Beyond News**

- With complaints pouring in on poor maintenance of toilets, water scarcity and jerk/vibration on trains, including the new design Linke Hoffman Busch (LHB) rakes, researchers and engineers have been told to develop new design coaches that can run at higher speed for longer duration at a lower maintenance cost.
- The Integral Coach Factory (ICF) in Chennai manufactures the LHB coaches which are facing complaints of jerks and vibration while in motion.
- Senior officials of the Railway Board also expressed concern over complaints relating to cleanliness, amenities, safety and riding comfort.
- The Railways is set to install CCTV cameras, LED/LCD destination boards and fire/smoke detection gadgets on trains.
- To address complaints of water scarcity in trains and at railway stations, sufficient funds would be allocated for quick watering arrangements.
- On the freight side, focus would be on providing better quality wagons and special commodity coaches for enhanced loading and higher speed potential.



**JANUARY-31 2018**

**General Studies-01**

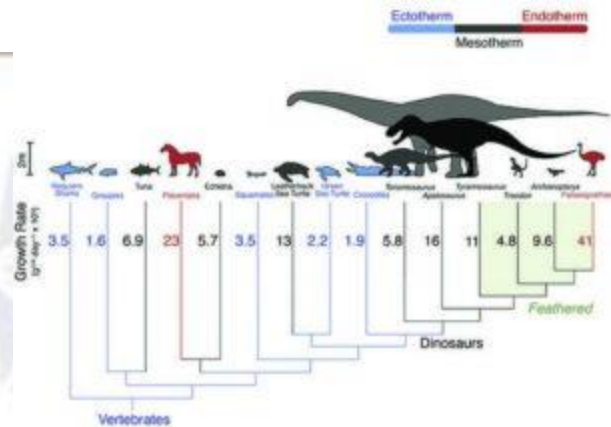


## 'Mammals, birds likely to survive climate change'

**News:** Researchers said that mammals and birds stand the best chance of all animals of surviving Earth's rapidly changing climate.

### Beyond News:

- An analysis of how nearly 11,5000 species fared over 270 million years of hot-and-cold fluctuations showed that warm-blooded creatures cope better with change than reptiles and amphibians, a team reported in the journal *Nature Ecology & Evolution*.



### Findings

- When a massive space rock crashed into Earth some 66 million years ago, the debris thrown in the atmosphere lowered the planet's temperature for decades. The shock wiped out the world's non-avian dinosaurs, from T-Rex to the three-horned Triceratops.
- But warm-blooded land mammals survived, and then thrived with all those predatory dinos out of the way.
- Global warming today has triggered another so-called mass extinction event – the first since the demise of the dinosaurs, and the sixth in the last half-billion years on Earth.
- Species are disappearing up to 100 times faster than before the Industrial Revolution, when temperatures began to climb, earlier research has shown.
- Looking at fossil records and genetic data, Rolland and colleagues reconstructed where animals lived over the past 270 million years -- and the temperature ranges that allowed them survive.
- When a balmy planet gradually cooled some 40 million years ago, for example, mammals and birds successfully adapted and move to new habitats.

### Man-made climate change

- Studying past evolution and extinctions of species can provide crucial clues on how current, man-made climate change far more rapid than any natural fluctuation that has happened in the past will affect Earth's biodiversity.

## General Studies-02

### Facing criticism, govt. backs down on orange passports

**News:** Weeks after announcing that Indian migrant labourers would be issued orange-coloured passports instead of the usual blue, the government backed down after sharp criticism, especially from the Opposition.



### **Beyond News**

- A release from the Ministry said that, after comprehensive discussions with the various stakeholders, the MEA has decided to continue the current practice of printing of the last page of the passport, and not to issue a separate passport with orange colour jacket to ECR (Emigration Check Required) passport holders
- The announcement reversed the January 12 decision, in which the MEA had done away with printing of the last page of the passport that contains the names of the parents of the passport applicant.
- At the same time, the MEA also declared that the covers of the **ECR category passports**, catering to migrant workers from India, would be in orange instead of the usual blue.
- The decision to do away with the last page was taken following suggestions from an expert panel to make passports more suitable for single parents, the MEA had clarified then.

### Pakistan extends Thar Link Express for 3 years

**News:** The **solitary rail link between India and Pakistan** received an extension from Islamabad .

### **Beyond News**

- Foreign Ministry of Pakistan has announced that the Thar Link Express that connects Khokhrapar in Pakistan and Munabao in Rajasthan received an extension for three more years.
- Spokesperson of the Ministry of Foreign Affairs of Pakistan said that the Government of Pakistan has agreed to extend the agreement of the Rail link





between Munabao (India) Khokhrapar (Pakistan) for another three years from 1 February 2018 to 31 January 2021.

- The weekly train connects Jodhpur and the bordering region of Rajasthan with the province of Sindh in Pakistan.
- The agreement to run the Thar Link Express was **signed in 2006 and is one of the cheapest means of transport between the two rival countries.**
- The rail link facilitates people-to-people contacts which Pakistan believes are essential for improving relations between both the countries.

### General Studies-03

#### Pampadum Shola has significant population of evasive Nilgiri Marten

**News:** The January 26 issue of Journal of Threatened Taxa has carried findings of their research which involved 148 days of field study. They had 42 independent sightings of the elusive animals in this period.

#### **Beyond News:**

- Pampadum Shola National Park located on the southern portion of Western Ghats is a safe haven of rare and most elusive Nilgiri Marten and the proposed eco-tourism activities there require careful planning and regular review.



#### **Nilgiri Marten**

- Endemic to the Western Ghats, **Nilgiri Marten** looks like a civet or a mongoose and it most prefers higher altitudes.
- The earlier information was that Nilgiri Marten was a solitary animal. However, there Pampadum Shola experience proves that they can be **spotted as pairs and triplets** as well. they were able to gather information on the dietary habits of the carnivorous animal.
- The number is vital as the global population of the Nilgiri Marten is estimated below 1000. Though not much studies were undertaken on Nilgiri marten, **it found place in schedule 2 of the part 2 of the Indian Wildlife (Protection ) Act 1972.**
- The team had also recorded their sounds and also their hunting patterns. The Nilgiri Martens often engage in allo-grooming and resting on fallen tree trunks. During day time, they remain restless and active.



## Pollution exceeds permissible limits: study

**News:** Air pollution readings from four 'Atmos' real-time air quality monitors installed across the Chennai city have shown that between January 1 and 23, on most days, the daily averages of PM 2.5 (particulate matter) levels in the city crossed the permissible limit fixed by the National Ambient Air Quality standards of the Central Pollution Control Board (CPCB).



### **Beyond News**

- While the CPCB fixes permissible PM 2.5 levels at 60 micrograms /cubic metre in the air, the World Health Organization (WHO) fixes it at 10 micrograms /cubic metre, which was not met even on a single day of the measurement.
- All these locations, however, recorded hazardous levels (above 180 micrograms /cubic metre) of PM 2.5 on January 13, the day of the Bhogi festival.
- If PM 2.5 levels touch 22.5 micrograms /cubic metre, breathing that air is considered equivalent to smoking one cigarette.

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