



### Current Affairs - March 2018 to May 2018

Month  Type



- [85 Current Affairs were found in Last Three Months for Type - Science and Technology.](#)

#### Science

- ▶ 2 Indian start-ups Neewee and EFLIGHT accelerated at Airbus Bizlab India, signed their first contracts with Airbus and subsidiary NAVBLUE to implement their unique innovative ideas in aerospace.
  - ▶ Neewee has come up with a solution called procuSense, to improve certainty in manufacturing, supply chain and procurement operations at Airbus. EFLIGHT has developed a trip support solution that provides a set of services that enables business jet pilots to optimise plans for fuel, time, route and weather.
- ▶ 4 rare kingfisher species are spotted in Krishna Wildlife Sanctuary in Andhra Pradesh, identified as White-throated kingfisher (*Halcyon smyrnensis*), Pied kingfisher (*Ceryle rudis*), Black-capped kingfisher (*Halcyon pileate*) and Common kingfisher.
- ▶ *IceCube*, a small NASA satellite has developed first global map of ice clouds. Ice clouds start as tiny particles high in atmosphere. They absorb moisture, and become heavier. This make them to fall to lower altitudes. Ice clouds affect Earth's energy budget by absorbing Sun's energy and by affecting emission of heat from Earth into space. IceCube will operate for a year, and then it will reenter Earth's atmosphere and burn up.
- ▶ A new species of Himalayan Butterfly named *Eucyclodes gavissima* discovered in Papikonda National Park in Andhra Pradesh.
- ▶ According to study by Gravity Recovery and Climate Experiment (GRACE) spacecraft mission of German Aerospace Center and NASA, India has seen sharp decline in availability of freshwater, due to overuse by humans, climate change and natural cycles.
- ▶ All India Institute of Medical Sciences Delhi (AIIMS) has set up India's first Virtual Bronchoscopy Navigation (VBN), an advanced facility for diagnosis and treatment of small tumour-like spots in lungs.
- ▶ American Spzce Exploration Firm SpaceX launched twin NASA satellites GRACE-FO (Follow-On) that will track Earth's water Cycle i.e. water movement and icemelt.
  - ▶ GRACE-FO (Gravity Recovery and Climate Experiment Follow-On) is joint project between NASA and German Research Center for Geosciences (GFZ), as as follow-on mission to GRACE mission, which mapped Earth's water and ice by measuring changes in Earth's gravity field from 2002 to 2017.
  - ▶ To measure Earth's gravity, 2 GRACE-FO satellites will orbit around Earth together, with one trailing behind other at distance of 220km.
- ▶ An International team of scientists provided first proof of an exotic new state of matter, known as Rydberg polarons. It can be created, by essentially putting atoms inside other atoms.
  - ▶ *Rydberg polarons* basically involves making use of the space between electron and nucleus inside an atom, enough to fit other atoms inside. Goal was to hit it in precisely right way to boost one or more of its electrons into an orbital far from nucleus, creating an excited state called a Rydberg atom.
- ▶ An important peptide that can be used to create a new preventive vaccine against leptospirosis (tropical infectious disease) has been found by researchers from Gujarat Biotechnology Research Centre. At present there is no preventive vaccine for Leptospirosis.
  - ▶ Researchers learned whole protein set of bacteria *Leptospira interrogans* by narrowing down to one effective immunogenic protein.
  - ▶ This protein was found in almost all serovars (different types within a species) of the bacteria.
- ▶ Andhra Pradesh Government notified its new state symbols, after bifurcation of undivided Andhra Pradesh in 2014 that led to formation of New State Telangana. New state symbols -
  - ▶ State bird - Rose-ringed parakeet (*Psittacula krameri*). Locally known as Rama Chiluka.

- ✎ State tree - Neem (*Azadirachta indica*). Locally known Vepa Chettu.
- ✎ State animal - Black-buck (*Antilope cervicapra*). Locally known as Krishna Jinka.
- ✎ State flower - Jasmine (*Jasminum officinale*).
- ✎ State symbols of Telangana - Bird - Indian Roller (It also state bird of Odisha and Karnataka), Tree: Jammi Chettu, Animal - Spotted deer. Flower - Tangidi Puvvu.










11. ▶ As per a recent study, 26 % of nitrogen on Earth comes from weathering of planet's bedrock, as against current belief that all of nitrogen on Earth available to plants comes from atmosphere. Ecosystems need nitrogen and other nutrients to absorb carbon dioxide (CO<sub>2</sub>) pollution and there is limited amount of it available from plants and soils.
  - ✎ Geology and carbon sequestration - Rock-derived nitrogen may fuel growth of forests and grasslands, and allow them to sequester more CO<sub>2</sub> than previously thought.
  - ✎ This discovery can improve climate change projections, which rely on understanding carbon cycle. Mapping nutrient profiles in rocks for their carbon uptake potential can help drive conservation efforts. For decades, scientists recognized that more nitrogen accumulates in soils and plants than can be explained by input from atmosphere alone, but they couldn't find missing sources of Nitrogen.
12. ▶ Astronomers discovered a first of its kind carbon-rich asteroid in Kuiper Belt, designated as *2004 EW95*.
  - ✎ Kuiper belt is a circum-stellar disc in outer Solar System, extending from orbit of Neptune to approximately 50 astronomical unit (AU) from Sun.
  - ✎ 2004 EW95 seems to have formed in the asteroid belt between Mars and Jupiter and then would have been flung billions of kms to its current locations.
13. ▶ Astronomers from Arizona State University (USA) discovered signals from period when universe's earliest stars emerged, named *Cosmic Dawn*. It could provide insights into elusive 'dark matter', believed to form a fundamental part of our universe. A radio telescope called *Experiment to Detect the Global Epoch of Reionization Signature (EDGES)* based in Western Australian desert, was used in this research.
14. ▶ Australian scientist of Indian origin Veena Sahajwalla launched world's first microfactory that can transform components from electronic waste items into valuable materials for re-use. It uses green manufacturing technologies to turn many types of consumer waste such as glass, plastic and timber into commercial materials and products. Transformed materials from micro-factory includes metal alloys and range of micromaterials.
15. ▶ Bhabha Atomic Research Centre (BARC) developed Bhabha Kavach, a next-generation cheaper and lighter bulletproof jacket, named after Dr. Homi J. Bhabha, father of Indian nuclear programme.
  - ✎ Bhabha Kavach is made of boron carbide and carbon nanotube polymer composite and weighs just 6.6 kg, reducing weight by 50%.
  - ✎ It will cost Rs 60,000-70,000, compared to imported bulletproof jackets costing around Rs 1.5 lakh.
16. ▶ Central Council for Research in Ayurvedic Sciences (CCRAS) has developed coded drug AYUSH QOL-2C for improving quality of life in cancer patients.
17. ▶ Central Institute for Research on Buffaloes (CIRB) claimed that India's first cloned Assamese buffalo male calf named Sach-Gaurav is born in Hisar (Haryana).
  - ✎ Animal cloning conserves and multiplies selected superior animals of buffalo breeds. It is second cloned male buffalo produced by ICAR-CIRB after Hisar-Gaurav born in December 2015.
18. ▶ China launched relay satellite *Queqiao (Magpie Bridge)* to establish communication with its planned Chang'e-4 lunar probe (rover) that will explore dark side of moon.
  - ✎ Queqiao (meaning bridge of magpies) will serve as communications relay for future Chang'e-4 rover that will explore in South Pole-Aitken Basin in moon's far side. It will be world's first communication satellite operating in halo orbit - Earth-moon Lagrange point L<sub>2</sub>, a gravitationally stable spot located 64,000 kilometers beyond lunar far side.
  - ✎ Need for relay Satellite -
    - ✎ Moon is tidally locked to Earth, it always shows same face (near side) to Earth. So, relay link is necessary to communicate with spacecraft on far side, which will otherwise have to send their signals through moon's rocky bulk.
    - ✎ Under China National Space Administration (CNSA)'s Chang'e program (Chinese Lunar Exploration Program), Chang'e 1 and Chang'e 2 probes already have reached lunar orbit in 2007 and 2010 respectively. Chang'e 3 mission is in process to put lander and rover on moon's near side.
19. ▶ China's Unoperational and out-of-control space station, Tiangong-1 will re-enter Earth between March 31 and April 1. The space lab with a length of 10m and weight of more than 8 tonnes, is larger than most of the man-made objects that routinely re-enter Earth's atmosphere. Most parts of it will burn up on re-entry into atmosphere and hence, there is a very low risk of any part hitting a populated area.

20. ▶ Chinese Researchers developed a new 3D conic device that can greatly increase solar-thermal conversion efficiency, Named *Artificial Transpiration* and inspired by transpiration process of trees. It is fixed with a special 1D water path which can reduce energy loss in conduction.
  - ✎ As 10 to 50 % of sunlight is diffusive, the cone structure of the device could collect more sunlight throughout the day, compared with a flat device. It can enhance solar-thermal conversion rate to 85 percent (up from 40% Currently).
  - ✎ It will also open new possibilities to utilise solar energy in several sectors, which was discontinued due to its low conversion rate caused by losses in radiation, convection and conduction.
21. ▶ Cybersecurity agencies detected a new malware called *Saposhi* that can take over electronic devices and use them for Distributed Denial of Service (DDoS) attacks. Saposhi is capable of taking over electronic devices and turning them into bots (device taken over by malware) which can then be used for any purpose.
22. ▶ Food and Drug Administration (FDA) of USA approved an artificial-intelligence device called IDx-DR, that can detect diabetic eye problems, allowing doctors to diagnose the condition without need of any data or images. It uses artificial intelligence algorithm to analyse images of eye, taken with a retinal camera Topcon NW400.
23. ▶ Genetic Engineering Appraisal Committee (GEAC) demanded more tests for genetically modified mustard- Dhara Mustard Hybrid (DMH -11) for *commercial cultivation*. It has called for 'field demonstrations' of GM mustard in an area of 5 acres at several locations, to study possible impact transgenic crop could have on honey bees.
  - ✎ GEAC had given final clearance for GM mustard (in May 2017). Clearance was later put on hold by Environment Ministry.
  - ✎ Even high-powered panel on Doubling Farmers' Income (DFI) said Genetic Engineering is 'powerful' tool for developing future crop, but for now it should be adopted only for non-food crops.
  - ✎ Dhara Mustard Hybrid (DMH -11) is transgenic mustard developed by Centre for Genetic Manipulation of Crop Plants at Delhi University. It is genetically modified variety of Herbicide Tolerant (HT) mustard.
24. ▶ ISRO successfully launched GSAT-6A Satellite, onboard Geosynchronous Satellite Launch Vehicle (GSLV-F08). This is 5th consecutive successful launch achieved by GSLV carrying indigenously developed Cryogenic Upper Stage. GSAT-6A is a communication satellite built to provide mobile communication services through multi beam coverage, equipped with S and C band transponders.
25. ▶ ISRO's Liquid Propulsion Systems Centre (LPSC) is developing environment-friendly propellant blend based on hydroxylammonium nitrate (HAN) to power satellites and spacecrafts, aiming to replace conventional hydrazine fuel, Which has dominated space industry as choice of propellant for over six decades despite hazards.
  - ✎ HAN-based monopropellant formulation consists of HAN, ammonium nitrate, methanol and water. Monopropellant is chemical propulsion fuel which does not require separate oxidizer. It is used extensively in satellite thrusters for orbital correction and orientation control.
  - ✎ HAN-based monopropellant will replace conventional hydrazine rocket fuel, a highly toxic and carcinogenic chemical, with greener propellant for future missions. It will also ensure cost effective re-usable, recoverable, re-startable and reliable space launches of ISRO.
26. ▶ ISRO's Polar Satellite Launch Vehicle PSLV-C41 successfully launched 1425 kg IRNSS-1I Navigation Satellite. IRNSS-1I is latest member of *Navigation with Indian Constellation (NavIC)* system (also known as Indian Regional Navigation Satellite System (IRNSS)).
  - ✎ NAVIC is an independent regional navigation satellite system designed to provide position information in Indian region and 1,500 km around Indian mainland.
  - ✎ The constellation consists 7 Satellites, planned to be expanded to 11.
27. ▶ IT Firm Tech Mahindra partnered with breach avoidance platform provider *Balbix* to launch first AI (Artificial intelligence)-powered continuous threat assessment and prioritised actionable risk intelligence platform.
28. ▶ Indian Institute of Science Education and Research (IISER) developed a *Arsenic Sensor and Removal Media* device to remove arsenic content from water and make it safe for use. It is capable of sensing soluble arsenic which cannot be easily removed. It is highly sensitive as it can sense up to parts per billion (ppb) levels, compared to currently available techniques that sense parts per million (ppm).
  - ✎ Arsenic is a natural component in earth's crust, widely distributed and highly toxic in its inorganic form.
29. ▶ Indian National Centre for Ocean Information Services (Ministry of Earth Sciences) has developed a new model that would predict how far sea water would travel after violating natural boundaries. It would be a Level-3 alert under India's Tsunami Early Warning System, which was put in place after 2004 tsunami. Level-1 tracks magnitude of a tsunami and Level-2 generates an alert about a potential tsunami and wave height.
30. ▶ Indian Space Research Organisation (ISRO) lost contact with recently launched India's communication GSAT-6A satellite. The second orbit raising operation of GSAT-6A was successfully carried out on March 31, 2018, but during third and final firing scheduled on April 1, 2018, communication with satellite was lost. Efforts by ISRO are on to re-establish communication with the satellite.


31. ▶ Indian Space Research Organisation (ISRO) will launch several satellites in coming month.
  - ✎ GSAT 7A - It will enable for Indian Air Force (IAF) to interlink different ground radar stations, airbases and Airborne Warning and Control System (AWACS) aircraft. It will be similar to Gsat-7 or Rukmini, launched in September 2013 for Indian Navy.
  - ✎ RISAT - 2A - It is an advanced remote sensing satellite and will boost India's surveillance capabilities.
32. ▶ Indian Space Research Organization developed an atomic clock to be used in navigation satellites to measure clear-cut location data. Currently ISRO imports atomic clocks from European aerospace manufacturer Astrium for navigation satellites.
  - ✎ It will be used on seven navigation satellites of India as part of Indian Regional Navigation Satellite System (IRNSS) or NavIC. Currently 3 NAVIC satellites have 3 imported Rubidium atomic clocks.
33. ▶ Indian Space and Research Organisation (ISRO) postponed launch of India's second lunar mission 'Chandrayaan-2' from April 2018 to October-November 2018 -
  - ✎ Chandrayaan 2 is India's second mission to Moon, developed indigenously by ISRO with Orbiter, Lander and Rover configuration.
  - ✎ It is ISRO's first inter-planetary mission to land rover on any celestial body, to be launched on board Geosynchronous Satellite Launch Vehicle Mk III (GSLV-F10). Orbiter weighs around 3,290 kg and it will orbit around moon and perform objectives of remote sensing moon.
34. ▶ Indian Space and Research Organisation (ISRO) postponed launch of India's second lunar mission 'Chandrayaan-2' from April 2018 to October-November 2018.
  - ✎ It will be launched on board of Geosynchronous Satellite Launch Vehicle Mk III (GSLV-F10). Chandrayaan 2 Chandrayaan 2 is India's second mission to Moon and is advanced version of previous Chandrayaan-1 mission (launched in 2008).
  - ✎ It consists of Orbiter, Lander and Rover configuration. In this mission, ISRO will for first time attempt to land a rover on moon's south pole.
35. ▶ Indian scientists formulated world's first ayurvedic drug to cure dengue, likely to be available by 2019. Double-Blind Placebo-Controlled Clinical Trial (a medical study involving human participants) of this drug is going on in medical colleges in Karnataka.
36. ▶ Japanese scientists invented procedure to produce alcoholic beverages from wood of cherry, cedar, and birch trees. Four-kilogram cedar wood produced 3.8 litres of liquid, with 15% alcohol content.
37. ▶ NASA discovered a special kind of neutron star outside the Milky Way galaxy for first time. Neutron stars are highly dense cores of massive stars that collapse and go through a supernova explosion. It was spotted via NASA's Chandra X-ray Observatory and European Southern Observatory's Very Large Telescope (VLT) in Chile.
38. ▶ NASA partnered with space launching firm SpaceX to launch Transiting Exoplanet Survey Satellite (TESS) to search for exoplanets using transit method. TESS is designed to carry out first spaceborne all-sky transiting exoplanet survey. It is planned to be launched in April 2018 on board of SpaceX's Falcon 9 rocket.
  - ✎ Primary objective of TESS is to survey brightest stars near Earth for transiting exoplanets over 2 years. It will use array of wide-field cameras to perform all-sky survey. It will create catalog of thousands of exoplanet candidates using transit photometry method.
39. ▶ NASA successfully conducted Advanced Supersonic Parachute Inflation Research Experiment (ASPIRE) to test supersonic parachute that will help its space exploration missions to land on Mars.
  - ✎ NASA's Mars rover mission is set to launch in 2020 to deploy six-wheeled vehicle on martian surface to study rocks on site and cache samples for eventual return to Earth. It will rely on special parachute to slow spacecraft down when it is entering Martian atmosphere at over speed of 12,000 mph (5.4 kilometers per second).
40. ▶ NASA will launch humanity's first mission Parker Solar Probe (PSP) to Sun on July 31, 2018. After launch, probe will orbit directly through solar atmosphere (the corona), closer to surface than any human-made object has ever gone.
  - ✎ It has been designed and built by Johns Hopkins University Applied Physics Laboratory. It is named after solar astrophysicist Eugene Parker, first spacecraft of NASA to be named after living person.
  - ✎ Probe will be fitted with thermal protection system (TPS) or heat shield made of reinforced carbon-carbon composite that will allow it to survive temperatures in Sun's corona.
41. ▶ NASA will launch mission InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) to study deep interior of Mars on May 5, 2018. Rocket will also launch two mini-spacecraft called Mars Cube One (MarCO), NASA's technology experiment. InSight is stationary lander that will be first NASA mission since Apollo moon landings to place seismometer, a device that measures quakes on soil of another planet.
42. ▶ NASA will send first-ever mission named as InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) dedicated to exploring deep interior of Mars, in May 2018. It will be first NASA mission since Apollo moon landings to place seismometer, a device that measures quakes on the soil of another planet.






43. ▶ NASA's Hubble Space Telescope discovered most distant star ever seen named 'Icarus, officially named *MACS J1149+2223 Lensed Star 1*. It took nine billion years for Icarus' light to reach Earth, captured through a phenomenon called 'Gravitational Lensing' that enormously intensifies star's feeble glow.
44. ▶ National Aeronautics and Space Administration (NASA) announced its plan of creating a manned supersonic aircraft with no ear-shattering sonic boom. NASA will grant \$247.5 million contract to American aerospace Firm Lockheed Martin, to build the new plane called X-plane.
- ✍ X-Plane is expected to cruise at an elevation of more than 16,700 meters, at a speed of more than 1,500 km per hour but not make a sonic boom.
  - ✍ Under NASA's plan, beginning mid-2022, It will fly X-plane over select US cities and collect data about community responses to flights.
45. ▶ National Aeronautics and Space Administration (NASA) demonstrated that Its Kilopower portable nuclear fission reactor could enable crewed missions to Moon, Mars and beyond.
- ✍ Kilopower Reactor Using Stirling Technology (KRUSTY) experiment was conducted by NASA at in November 2017 - March 2018, established that this system can create electricity with fission power.
  - ✍ KRUSTY is a small, lightweight fission power system which is capable of providing up to 10 kilowatts of electrical power continuously for at least 10 years. This prototype uses a solid uranium-235 reactor core.
46. ▶ National Aeronautics and Space Administration (NASA) launched Colorado High-resolution Echelle Stellar Spectrograph (CHES 4) from Kwajalein Atoll in Marshall Islands, onboard a NASA Black Brant IX sounding rocket to study interstellar medium (matter between stars).
- ✍ Space between distant stars contains drifts of vast clouds of neutral molecules and charged plasma particles called interstellar medium, which may evolve into new stars and even planets with time.
  - ✍ CHES mission will focus on these floating interstellar reservoirs or translucent clouds of gas, which provide fundamental building blocks for stars and planets.
  - ✍ CHES 4 will study interaction of stellar wind with surrounding interstellar medium to study excitation of atoms and molecules in interface region. It will enable researchers to study catalysts of galactic chemistry and raw materials for future generations of stars and planets.
47. ▶ National Aeronautics and Space Administration (NASA) launched Transiting Exoplanet Survey Satellite (TESS), a new planet-hunting spacecraft onboard of SpaceX's Falcon 9 rocket. TESS is designed to find potential planets orbiting stars close to Earth. It will identify such planets by spotting decreased brightness of stars after planet passes in front of it.
48. ▶ National Aeronautics and Space Administration (NASA) will launch 2 new satellite missions and conduct an array of field research in 2018 to enhance understanding of Earth's ice sheets, glaciers, sea ice, snow cover and permafrost (collectively called cryosphere).
- ✍ Changes in cryosphere have shown impact on people all around world like sea level rise affects coastlines globally and melting of snowpack affects billions of people who rely on the water.
  - ✍ Missions Include -
    - ✍ *Gravity Recovery and Climate Experiment Follow-On (GRACE-FO)* which would be launched by NASA along with the German Research Centre for Geosciences. Twin satellites will continue original GRACE mission's legacy of tracking fluctuations in Earth's gravity field in order to detect changes in mass, including the mass of ice sheets and aquifers.
    - ✍ *Ice, Cloud, and land Elevation Satellite-2 (ICESat-2)*, which will use a highly advanced laser instrument to measure changing elevation of ice around the world, providing a view of the height of Earth's ice with greater detail than previously possible.
    - ✍ Together, two missions will make critical, complementary measurements of Earth's glaciers and ice sheets. GRACE-FO will also measure groundwater reserves and deep ocean currents and ICESat-2 will measure sea ice thickness and vegetation height.
49. ▶ RH-300 MKII sounding rocket developed by IRSO's Vikram Sarabhai Space Centre (VSSC) has been launched from Thumba Equatorial Rocket Launching Station in Thiruvananthapuram (Kerala), under Sounding Rocket Experiment (SOUREX) programme for atmospheric studies.
- ✍ Objective is to measure neutral wind in dynamo region (80-120 km) of equatorial ionosphere using indigenously developed Electron Density and Neutral Wind Probe (ENWi).
  - ✍ It will also perform cross-validation using an independent Tri Methyl Aluminium (TMA) release technique.
50. ▶ Recent National Institute of Virology (NIV) study found that Indian *Aedes aegypti* mosquito that transmits dengue and chikungunya viruses is susceptible to zika virus. It was found that Indian *Aedes aegypti* mosquito infected with African strain MR-766 of zika virus (ZIKV) can transmit infection.

51. ▶ Researchers at Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) Bengaluru have developed silver copper telluride (AgCuTe), a novel compound that exhibits poor thermal conductivity but shows good electrical conductivity.
  - ✎ AgCuTe has good thermoelectric properties and is made from silver, copper, and tellurium. It exhibits poor thermal conductivity in 25-425 degree C range but shows good electrical conductivity.
  - ✎ Due to this property, one end of 8 mm-long AgCuTe rod which is contact with waste heat remains hot while other end maintains cold temperature. This temperature difference results in generation of electrical voltage.
  - ✎ This compound shows ideal promise as thermoelectric material for converting waste heat into electricity. Its applications are in automobile, thermal, chemical and steel power plants where large quantities of heat are wasted.
52. ▶ Researchers discovered new class of antibiotics called odiorhabdins or ODLs that fights drug resistance, produced by symbiotic bacteria found in soil-dwelling nematode worms that colonise insects for food. Bacterium helps kill insect and secrete antibiotic to keep competing bacteria away.
  - ✎ During research it was found that ODL act on ribosome (molecular machine that makes proteins cells needed to function) of bacterial cells. ODL like many clinically useful antibiotics, work by targeting ribosome. But ODL is unique because it binds to place on ribosome that has never been used by other known antibiotics.
53. ▶ Researchers discovered new grass-like plant species named *Fimbristylis agasthyamalaensis* in Ponmudi hills within Agasthyamala Biosphere Reserve in Western Ghats biodiversity hotspot (Spread across Kerala and Tamilnadu). New species of plant belongs to Cyperaceae family.
54. ▶ Researchers from Britain's University of Portsmouth and US Department of Energy's National Renewable Energy Laboratory (NREL) developed a plastic-eating enzyme. Called *Ideonella sakaiensis* 201-F6, this enzyme is able to eat polyethylene terephthalate (PET), which was patented as plastic in 1940s. It can be used to fight one of world's biggest pollution problems, called Plastic.
  - ✎ Enzyme can also degrade polyethylene furandicarboxylate (PEF), a bio-based substitute for PET plastics that is being called as a replacement for glass beer bottles.
  - ✎ Though PEF plastics are bio-based, they are not biodegradable and end up as a waste.
55. ▶ Researchers from Indian Institute of Technology (IIT) Roorkee identified 2 small potent molecules Pep-I and Pep-II, for their inhibitory activity to treat Chikungunya disease. Small amount of concerned solution was able to achieve almost 99% reduction in virus. Currently, there are no drugs to treat chikungunya or any vaccine to prevent it.
56. ▶ Researchers from Indian National Centre for Ocean Information Services (INCOIS) and US National Oceanic and Atmospheric Administration (NOAA) found that global warming is driving proliferation of *Noctiluca* algae (known as sea tinkle), a harmful algae in Arabian Sea responsible for glowing of Mumbai's beaches in dark.
  - ✎ *Noctiluca* algae is parasite and occurs in patches or blooms in northern Arabian Sea. The algae compete with fish for food and choke their supply. It also excretes large amounts of ammonia, which causes massive fish mortality.
57. ▶ Researchers from Northumbria University (UK) found out mountain ranges and three vast, deep sub-glacial valleys hidden under Antarctica ice. This is first finding observed from ice penetrating radar data collected in Antarctica as part of European Space Agency PolarGAP project. Largest valley, named Foundation Trough, is over 350 kilometres long and 35 kilometres wide. Other 2 are Patuxent Trough and Offset Rift.
58. ▶ Researchers from Surat's Veer Narmad South Gujarat University discovered world's smallest land fern in Ahwa forests of the Western Ghats in Gujarat's Dang district. New Malvi's adder's-tongue fern *Ophioglossum malviae* is just one centimetre in size.
59. ▶ Scientists at Central Sheep and Wool Research Institute (CSWRI) Rajasthan invented a new laparoscope-assisted insemination technique for sheep breeding. It is minor invasive laparoscopic technique involves passing rigid fibre-optic laparoscope into abdomen through small incision.
  - ✎ It resolves difficulties in freezing of semen and inability to transit tortuous reproductive tract of sheep kept as livestock. It will also help achieve up to 60% survival in birth of lambs.
60. ▶ Scientists at Northwestern University (USA) led by India's Vinod Kumar Sangwan (India), developed "Memtransistor", an electronic device that can mimic human brain, combining functions of a memristor and a transistor.
61. ▶ Scientists completed first test drive of a DNA 'unicycle' – a tiny machine made of genetic material powered by chemical energy that could perform directed movements, developed by Researchers from University of Bonn (Germany) and University of Michigan (USA). The tiny vehicle is 30 nanometers in size and Fuel is given by protein *T7 RNA polymerase*.
62. ▶ Scientists created world's smallest house – build on an area of 300 square micrometres – using a robotic system that can accurately assemble nanomaterials into tiny, desirable structures. Researchers from Femto-ST Institute in France, assembled new microrobotics system that pushes forward frontiers of optical nanotechnologies.

-  With advancement, optical fibres as thin as human hair can be inserted into inaccessible locations like jet engines and blood vessels to detect radiation levels or viral molecules.
63. ▶ Scientists discovered a giant mosquito with a wingspan of 11.15 centimetres in China's Sichuan province, belonging to world's largest mosquito species *Holorusia mikado*. This species was first found in Japan and normally has wing span of 8 centimetres.
64. ▶ Scientists discovered first interstellar immigrant, an Asteroid named (514107) 2015 BZ509 (Also called Oumuamua) that has a different origin other than our solar system because it moves in a direction opposite to that of all objects in our solar system.
65. ▶ Scientists discovered hot, metallic, Earth-sized planet named K2-229b orbiting dwarf star located 260 million light years away, using NASA's Kepler 2 telescope. They employed Doppler spectroscopy technique also known as 'wobble method' to discover and characterise this faraway planet. K2-229b is almost 20% larger than Earth and 2.5 times heavier. Its day side temperature reaches over 2000 degrees Celsius.
66. ▶ Scientists discovered new frog species named *Microhyla kodial* or Mangaluru narrow-mouthed frog in a region in coastal Karnataka. It is seen only in small industrial region which was former timber dumping yards surrounded by seaport, petrochemical, chemical and refinery industries. It is small in size measuring just 2 cm long.
67. ▶ Scientists discovered new organ in human body and have named it as 'interstitium', as 80th organ in human body.
-  It might be might be also the biggest organ in human body. It was discovered while doctors were investigating patient's bile duct, searching for signs of cancer. Discovery of interstitium will help to explain how cancer spreads in body and pave way for new ways to detect and treat the disease.
-  Interstitium is network of interconnected, fluid-filled spaces all over the body. It is found everywhere in human bodies, acting as shock absorber in all places where tissues are moved or subjected to force. It is made up of both flexible (elastin) and strong (collagen) connective tissue proteins, with interstitial fluid moving throughout.
-  It also acts as fluid 'highway' i.e. thoroughfares to transport critical fluids within organs and around body. It also plays important role in carrying lymph, a fluid that supports immunity and also travels through lymphatic vessels.
-  It lies beneath top layer of skin, but is also in tissue layers lining gut, lungs, blood vessels, and muscles.
68. ▶ Scientists discovered world's oldest lizard fossil, named *Megachirella wachtleri*, in Dolomites mountain range of Italy. Fossil is 240 million years old.
69. ▶ Scientists discovered world's second oldest grain of magmatic zircon (mineral that contains traces of radioactive isotopes) from Champua from Singhbhum rock sample in Odisha's Kendujhar district. It is oldest magmatic zircon on earth.
-  Isotopic analysis of Singhbhum rock sample with magmatic zircon was done used Sensitive High Resolution Ion Microprobe (SHRIMP) at Chinese Academy of Geological Sciences. It confirmed presence of two zircon grains that aged 4240 million and 4030 million years.
-  Oldest zircon on earth was found in Jack Hill (Western Australia), which is 4400 million years old. It is metamorphosed sedimentary rock.
70. ▶ Scientists found a drug named "PLX5622" that could prevent the brain damage caused by exposure to cosmic radiation, useful to spacewalkers as Humans travelling beyond Earth's protective magnetic fields will be exposed to cosmic radiation nearly 1000 times higher than that on Earth.
71. ▶ Scientists from CSIR-Institute of Minerals and Materials Technology (CSIR-IMMT) found four bacterial strains that remove sulphur from fossil fuels such as petroleum and coal. Sulphur is one of the major pollutants emitted during the combustion of fossil fuels. Bacterial strains are *Rhodococcus rhodochrous*, *Arthrobacter sulfureou*, *Gordonia rubropertinita* and *Rhodococcus erythropolis*. Bio-desulfurization using these bacterial strains can be used on commercial scale for removal of sulphur from fossil fuels on commercial scale.
72. ▶ Scientists from China Academy of Launch Vehicle Technology (CALT) developed artificial heart using rocket technology, currently being tested on animals. The artificial heart uses magnetic and fluid levitation from rocket system. This technology can reduce friction in device to increase working efficiency and extend life span of power generator. It can reduce damage to the blood and enable blood pump to work longer.
73. ▶ Scientists from Newcastle University (UK) created world's first 3D printed human corneas that could solve problem of shortage of available eye donors and help millions of blind people gain sight again.
-  Cornea is outermost layer of the human eye. Its key function is to focus vision. It also barricades eyes against harmful dirt and bacteria.
-  3D printed human corneas were produced using bio-ink solution consisting of healthy corneal stem mixed together with alginate and collagen.
74. ▶ Scientists from Pennsylvania State University (USA) discovered signs of life in a massive cave in Italy, located about 1300 feet below ground. It may help detect life on other planets like Mars. Identification was made by researchers while exploring Frasassi Caves in central

Italy. Scientists found variations in isotopic content of atoms in mineral gypsum, a weathering product of cave's formation.

 Study stated that not all gypsum is formed by microbes, but gypsum formed by microbes will have a different ratio of isotopes in atoms. • This isotopic variation indicates that life played an active role in producing gypsum.

75. ▶ Scientists from Tohoku University in Japan found mineral called moganite in lunar (Moon's) meteorite that points presence of abundant hidden reserves of water ice under surface of moon. The mineral discovered in a desert in northwest Africa could be potentially useful for future human exploration of moon.
  -  Moganite is a crystal of silicon dioxide (SiO<sub>2</sub>), known to form on earth in specific circumstances in sedimentary settings from alkaline fluids.
  -  Researchers believe that mineral formed on surface of moon in area called Procellarum Terrane as water was present in lunar dirt, that evaporated due to strong sunlight. But in subsurface, water remains in form of ice.
76. ▶ Scientists from University of Minnesota (USA) discovered that chemical element ruthenium (Ru(44)) is fourth element to have unique magnetic properties (ferromagnetism) at room temperature, after Iron (Fe), Cobalt (Co), and Nickel (Ni). The discovery will help to improve sensors, devices in computer memory and logic industry or other devices using magnetic materials. It was discovered in 1844 by Russian-born scientist Karl Ernst.
77. ▶ Scientists from Zoological Survey of India (ZSI) discovered new species of water strider named Ptilomera nagalanda Jehamalar and Chandra in Nagaland. It was found in river Intanki in Peren district of Nagaland. This newly discovered species belongs to Ptilomera agriodes genus.
78. ▶ Scientists identified a new species of frog called Fejervarya goemchi, in highland plateaus of Western Ghats parts of Goa. It was identified using combination of morphology, geographic distribution range and molecular methods to distinguish from other Fejervarya species found in South and South-East Asia.
79. ▶ Scientists of Chinese Academy of Sciences discovered a 400 Million Year old fossilised body piece of an extinct class of marine animal named Cystoidea or cystoids at Guizhou province (China).
80. ▶ Sudan, the last surviving northern white male rhinoceros of the world, died in Laikipia national park of Kenya. He was 45 years old and was only surviving male northern white rhin. Now, only 2 female rhinoceros of that sub-species are living. Genetic material from Sudan was collected when he was healthy. Through advanced cellular technologies, this sub-species might be prevented from extinction.
81. ▶ Tapanuli Orangutan, the rarest ape species on Earth, is on verge of extinction with only approx 800 members of the species alive. This species was discovered in 2017 in Sumatra (Indonesia).
82. ▶ US Food and Drug Administration (FDA) approved use of Acuvue Oasys Contact Lenses with Transitions Light Intelligent Technology, world's first contact lens that automatically darkens when exposed to bright light. These contact lens are soft contact lenses indicated for daily use to correct vision of people with non-diseased eyes who are nearsighted (myopic) or farsighted (hyperopic).
83. ▶ Uropeltis bhupathyi, a new snake species has been discovered in the Anaikatty hills, Coimbatore, Tamil Nadu. It has been named after late herpetologist S. Bhupathy. They are non-venomous, burrowing, mostly earthworm-eating.
84. ▶ Vodafone Germany, Nokia and Audi are jointly working to support project to implement first mobile phone network on Moon by 2019. PTScientists, a Berlin-based company, is also working on this project.
85. ▶ Weather scientists predicted normal monsoon in June-September 2018 monsoon season as prevailing conditions as well as neutral ENSO were favourable for good monsoon rainfall.
  -  India receives 89 cm of rainfall during four-month monsoon season, which is almost 75% of its annual rainfall.
  -  Most important favourable condition for good monsoon is near-neutral to neutral ENSO (El Nino Southern Oscillation) in equatorial Pacific Ocean, off coast of South America.
  -  Moreover, La Niña conditions are present and equatorial sea surface temperatures (SSTs) are below average across central and eastern Pacific Ocean. Transition from La Niña to ENSO-neutral is likely during March-May season, with neutral conditions to continue in second half of year.

[Top](#)

[Read Important Ones](#)