

RAO'S COACHING CENTRE

CURRENT AFFAIRS

MARCH 2018

Persons in News

Venkat Srinivasan – An Indian American entrepreneur has developed an Artificial Intelligence (AI) based software that helps read and comprehend any material in English (English Helper).

Navin Varadarajan – Indian-American scientist has won a grant of \$1.1 Million (Rs. 7 Crore) for cancer research (of the University of Houston); will work on improving-cell immunotherapy.

Win Myint – Elected President, Myanmar by the Parliament; he is a close ally of Ms. Aung Suu Kyi, de facto leader of Myanmar & head of National League for Democracy Party.

Dr. K. Vijayaraghavan – Well known biologist & former Secy, Dept of Biotechnology appointed Principal Scientific Advisor to GOI.

Ms. Bidya Devi Bhandari – The first woman President of Nepal was elected for a second term.

Ms. Krishna Kumari Kohli- Became the first Hindu woman Senator in Pakistan; she is a Dalit representing the Pakistan People's party.

Places in News

Venezuela – 68 inmates of jail were killed in a prison fire at Valencia; the country's jails are overcrowded and notorious for drugs & weapons.

Devbhumi, Dwaraka district, Gujarat – A National Coastal Police Academy for training in maritime security will be located here (Home Ministry).

Imphal – Manipur Central University – hosted 105th Session of the Science Congress; (it was originally supposed to be held at Osmania University, Hyderabad). Its theme was: Reaching the unreached through S & T. PM Modi inaugurated. Dept of S & T and Indian Science Congress Association organized the 5 day event which was first suggested by two British scientists – J L Simonsen & PJ MacMohan.

Kolkata - WB Tourism Dept & a Danish company renovated a 232 year old heritage Danish hotel, (one of the first in India) - The Danish Tavern. It was started by James Parr.

Ruppor, Bangladesh - India and Russia jointly are constructing a nuclear power plant.

Bilateral Relations

India – France – The French President Emmanuel Macron made a high profile visit to India; Highlights/achievements of his visit were:

- (i) The two countries agreed on a Joint Strategic vision of India – France cooperation in the Indian Ocean Region (need to establish an open, inclusive & transparent cooperation system, states to respect international laws, India Ocean cannot become a place of dominance etc.,) (it is seen as countering China’s growing presence in the Indian ocean region).
- (ii) India & France launched the International Solar Alliance (discussed in National Developments Section).
- (iii) Both countries agreed to hold a bilateral naval exercise Varuna in the Indian Ocean later this year (focus on submarines, anti-submarine warfare & combat terrorism).
- (iv) Provision of reciprocal logistics support between armed forces of India & France; (opening up their military bases for each other’s armed forces).
- (v) An India – France joint vision for Space Cooperation
- (vi) Exchange, reciprocal protection of classified or protected information.
- (vii) Agreement on prevention of drug trafficking
- (viii) Pact on Jaitapur Nuclear Power Plant
- (ix) Credit facility for Rs. 800 Crore funding for Smart City Projects
- (x) Agreement for Mutual Recognition of Academic Qualifications
- (xi) MoUs on cooperation in the field of railways, environment

India – Vietnam – Vietnam President Tran Dai Quang visited India. The two countries signed MoUS in the fields of (a) civil nuclear energy cooperation (global centre for nuclear energy partnership, India & Vietnam Atomic Energy Institute) (b) trade and economic cooperation (c) agriculture (transfer of technology and exchange of visits).

India – Jordan – Jordan King Abdullah II visited India; Abdullah is a 41st generation direct descendant of Prophet Mohammed. He is also the custodian of holy sites in Jerusalem, including the Al-Aqsa Mosque, the third holiest site in Islam, located in the Old City of Jerusalem. Highlights:

- (i) India and Jordan signed 12 agreements including a framework pact on defence cooperation.
- (ii) India to set up a Centre of Excellence in Jordan for training of minimum 3,000 Jordanian IT professionals over a period of 5 years, and setting up of a resource centre in India for training of master trainers in IT field from Jordan.
- (iii) Setting up a fertilizer production facility in Jordan with a long-term agreement for 100% off take to India was also signed. It is aimed at ensuring long term and sustained supply of rock phosphate to India.

Obituaries

Javed Abidi – Champion of rights of disabled under the banner of the National Centre for Promotion of Employment for Disabled People (NCPEDP) and the Disability Rights Group (DRG).

Roger Bannister – Legendary British Athlete, the first to run a mile under 4 minutes (1954), he won an Olympic Gold in 1952 (1500 mt).

Sri Jayendra Saraswathi – The 69th Shakaracharya of the Sri. Kanchi Kamakoti Peetam, TN. The junior pontiff Vijayendra Saraswathi will succeed Jayendra Saraswathi. The mutt was established by Adi Shankaracharya about 2,520 years ago.

Stephen Hawking – UK – One of the most well-known contemporary theoretical physicist/scientist. At a young age, he was diagnosed with a rare disease called Amyotrophic Lateral Sclerosis (or Lou Gehrig's disease) which affected his motor – neuro functions confining him to a wheel chair later and using voice synthesizer. His contributions covered a range of fields like cosmology, astronomy, physics and mathematics. He also popularized cosmology and physics through his books which sold in millions.

His contribution to science may be summarized as follows:

1. Universe has no space-time boundaries, universe has no unique initial status.
2. Black Holes (collapsed stars) exude radiation (earlier it was thought that nothing can escape from Black Holes – not even light). The radiation of the black hole was named Hawking radiation.
3. Along with Penrose, he put forward the Hawking-Penrose theorem (Singularity theorem) - a highly abstract complex theorem modifying the general theory of relativity of Einstein. It states that there must be singularity at the centre of Black Hole & singularity before the Big Bang; singularity is (a) a situation where matter is forced to be compressed to a point (space-singularity) & (b) a situation where light rays come from a region with infinite curvature (time-singularity).
4. He suggested the concept of multi-verse (existence of several universes) and along with James Hartle suggested theory that the universe may have originated from nothingness.
5. He wrote many bestselling books on cosmology, astronomy & physics which popularized these subjects; His well-known books were – A Brief History of Time, The Universe in a Nutshell, The Theory of Everything, The Dreams That Stuff is Made of, The Nature of Space & Time & My Brief History - a Memoir etc. A movie named The Theory of Everything was made based on his life.

Ms. Linda Brown – A pioneer in Black rights movements in USA. She was refused admission in an all-white-school and the US Supreme Court ruled racial segregation in schools violative of constitution (1950s). This judgement in a way gave a boost to the Civil Rights movement in U.S.

National Developments

1. The Supreme Court upheld passive euthanasia and the right to give advance medical directives or Living Wills' to smoothen the dying process as part of the fundamental right to live with dignity (a living will is a document prepared by a person in their healthy/sound state of mind under which he can specify in advance whether or not he would like to opt for artificial life support, if he is in vegetative state due to an irreversible terminal illness in the future). Passive euthanasia is the act of withdrawing or withholding medical support to a dying patient who has no hope for revival or cure. The fundamental right to life and dignity under Article 21 of the Constitution includes the "right to die with dignity."

While recognizing passive euthanasia, the SC has allowed advance directive, or living will, by which patients can spell out whether treatment can be withdrawn if they fall terminally ill or are incompetent to express their opinion.

Who can make it:

- An adult with a sound and healthy mind
- It should be voluntarily executed, based on informed consent
- It should be expressed in "clear and unambiguous terms
- The document would bear signatures of the executor in the presence of two attesting witnesses, and the jurisdiction judicial magistrate of first class (JMFC).

Contents of Will

- Circumstances in which treatment should be withheld or withdrawn
- Specify that the will can be revoked any time
- Name of the "guardian or close relative" who will give the go-ahead for starting passive euthanasia

How to Preserve it?

- The will shall be attested by two witnesses and preferably counter-signed by a first class judicial magistrate
- The magistrate shall preserve one hard copy and one soft copy each and forward it to the district court registry
- Copy will be given to a local Govt, official, who shall nominate a custodian for the will

In the event of the executor becoming terminally ill with no hope of recovery, the physician/hospital treating the patient will set up a hospital medical board after informing the executor/his guardian about the nature of illness and consequences of alternative forms of treatment. This board will consist of the head of the treating department and at least three experts from the fields of general medicine, cardiology, neurology, nephrology, psychiatry or oncology with at least 20 years' experience in the medical profession. Their decision will serve as preliminary opinion on whether

or not to certify carrying out the instructions in the living will. If the hospital medical board opines in favour of executing the advance directive, a second medical board will be set up, which will review the decision of the first board. Its decision will then be conveyed to the jurisdictional JMFC, who after visiting the patient and examining all aspects will authorize its implementation. If the medical board refuses to allow withdrawal of medical treatment, the executor or his family members can move the concerned high court. However, legal experts wonder whether this idealistic judgment can be implemented in reality

2. The Supreme Court indefinitely extended the deadline for linking Aadhaar with mobile phones and tatkal passports and for opening bank accounts from March 31, 2018, till the Constitution Bench, led by Chief Justice of India Dipak Misra, pronounces its final verdict on the validity of the Aadhaar Scheme.
3. The Supreme Court ruled that foreign law firms or foreign lawyers cannot practice law in the country either on the litigation or non-litigation side. This means overseas lawyers or firms cannot open offices in the country, appear in courts or before any authority or render legal services, such as giving opinions or drafting documents.
4. The Cabinet approved a series of reforms for school education in the country, in what could be considered as the Sarva Shiksha Abhiyan-2 Project. The SSA, the Rashtriya Madhyamik Shiksha Abhiyan and teacher training would be integrated into a single scheme from Classes 1 to 12. The integrated scheme will be in place from April 1, 2018, to March 31, 2020. It aims to support the States in universalizing access to school education from pre-nursery to Class 12 across the country. The Centre has also approved an increase in the outlay for making education at loans interest-free for students with modest financial means for studying in universities and colleges charging high fees. The interest subsidy will last till one year of their completing the course.
5. Supreme Court laid down the following guidelines on SC/ST Atrocities Act 1989 – Public servants can only be arrested with the written permission of their appointing authority. In the case of private employees, the Senior Superintendent of the Police concerned should allow it. Besides this precaution, a preliminary inquiry should be conducted before the FIR is registered to check whether the case falls within the parameters of the Atrocities Act and if it is frivolous or motivated. The judgment set off protests and the Govt is contemplating filing a revision petition in the apex court.
6. The Delhi High Court quashed a notification issued by President Ram Nath Kovind disqualifying 20 AAP MLAs of Delhi Assembly for holding offices of profit as Parliamentary Secretaries. It held the Election Commission of India advice to the President to disqualify the legislators was “vitiating and bad in law for failure to comply with the principles of natural justice”. The High Court noted the poll panel failed to give oral hearing and opportunity to address arguments on merits to the AAP MLAs before arriving at its opinion that they held ‘office of profit’.

7. The Centre unveiled a Rs. 1,152 Crore farm mechanization project to tackle air pollution due to stubble burning in northern parts of the country. The proposals allow the Government to set up farm machinery banks for custom hiring for in-situ farm residue management. The scheme is targeted at farmers in Uttar Pradesh, Haryana, Punjab and Delhi. Under the scheme, the Centre will extend 50% financial assistance to farmers for hiring the machinery for crop residue management.
8. Flight management company Aerotech FMS, Hyderabad, launched Mahi, a little plane which will circum-navigate Planet Earth with an all-women civilian crew as part of a women's empowerment initiative. The Colors 'Women Empower' Expedition was conceived and will be managed by Social Access Communications, a not-for profit communications firm. Mahi will fly across 22 countries taking the message of women's empowerment and spearhead a unique crowd-funding campaign – the 'WE! Udaan Scholarship' to champion, enable and empower under-privileged Indian girls living in the Udaan regional connectivity centres, who want to learn and earn from flying.
9. Election Results (North-Eastern States)
 1. **Tipura** - Biplab Deb of BJP took over as CM. BJP was able to dislodge CPM which was in power in the State for three decades. It formed a pre-election coalition with the Indigenous People's Front of Tripura.

Party Wise Strength	Seats (60)
Congress	0
BJP	35
CPM	16
IPFT	8
Others	0

2. **Nagaland** - Neiphu Rio - Former CM and leader of NDDP(see below) took over as CM in coalition with BJP and support of independents.

Party Wise Strength	Seats (60)
Congress	0
BJP	11
NPF (Naga People's Front)	27
NDPP (Nationalist Democratic Progressive Party)	16
Others	4

3. **Meghalaya** Conrad Sangma of NPP took over as CM in coalition with BJP and smaller regional parties like Hill State People's Democratic Party

Party Wise Strength	Seats (60)
Congress	21
BJP	2
NPP (National People's Party)	19
UDP (United Democratic Party)	6
Others	11

10. India formally launched the International Solar Alliance (Founding Conference of the International Solar Alliance) at Delhi on 11th March. The French President Emmanuel Macron & Indian PM Sri. Narendra Modi cochaired. The highlights of the ISA are:

- (i) It was first announced by PM at the UN climate change conference in Paris in November 2015
- (ii) ISA has a set a target of 1 TW of solar energy by 2030.
- (iii) It is open to 121 countries most of them located between the Tropic of Cancer & Capricorn (this region has bright sunlight for most of the year) so far about 60 countries have joined ISA. Later, GOI extended membership to other countries as well.
- (iv) ISA Secretariat will be in India.
- (v) Initially, India will provide assistance to 15 countries for 1.4 Billion Dollars; France will commit 700 Million Euros by 2022.

11. Andhra Pradesh – The Telugu Desam Party walked out of NRA over the issue of non-granting of special category status to the state. The AP Reorganization Act 2014 which bifurcated the State into Telangana and AP did not provide for any special category status but only mentioned special grants, funds for a new capital and Polavaran Irrigation Project (declared a national project). But during the passage of the Bill in the Parliament, the then PM Mr. Manmohan Singh assured special category status to AP for 5 years. The BJP supported this and even mentioned it in their election manifesto. The BJP retracted on its assurance, according to TDP. The centre maintained that the 14th Finance Commission was against extending special category status to any states (other than those already (in the list) and said grants on a case to case basis will be considered.

The 5th Finance Commission brought in the concept of special category status. Later the Planning Commission introduced SCS on the following parameters – (a) hills & difficult terrain (b) low population density (c) strategic location along international borders (d) economic and infrastructure backwardness (e) non-viable nature of state finances. Based on these, the North Eastern States, Uttaranchal, Sikkim, Himachal and J & K were given SCS. The advantages of SCS are – (a) Central assistance will be in the rate of 90% grants aid 10% loans and (b) Tax concessions for industries. The Centre said that AP did not meet any of these criteria. However, the fact is AP has lost out hugely on account of

bifurcation; Hyderabad region alone contributed to about Rs. 7,0000 Crores revenues to the undivided state.

International Developments

1. **USA** –(i) In yet another reshuffle (so far Trump’s administration has seen 25 changes at middle & senior levels; Either the President has fired them or some left on their own due to differences with Trump’s style of working). Secy of State (in America, Secy of State is third senior most after the President of UP) Rex Tillerson Quit owing to differences over Iran nuclear deal which Trump wants to scrap. Tillerson will be succeeded by CIA director Mike Pompeo. Ms. Gina Haspel, Dy. Director, CIA is all set to become the Agency’s first woman head (In USA, the senate (Upper House) has to ratify all senior appointments by the President). Earlier, Chief Economic Advisor to the President Gary Cohen and National Security Advisor H R McAaster too quit; McAaster was replaced by Jhon Bolton, former US ambassador to UN.
(ii) USA slapped 25% tariff on steel imports from China and European Union and other countries excluding countries with which it has security relationship (eg: Japan, Australia) America has trade deficit with China and cheap steel imports, according to Donald Trump, hurts American steel industry. But the move could increase cost of production for steel based industries in US and push up prices in US and may also lead to retaliation.
2. **Ethiopia** – The Govt declared emergency in the face of protests – PM Hailemariam Desalgen resigned. Ethiopia witnessed reasonable political stability and economic growth in the last decade or so. Ethiopian People’s Revolutionary Democratic front is in power for more than two decades. Political power is in the hands of Tigrayans, an ethnic minority. The party is trying to bring in others into Govt, specially Oromo Community which makes up about one third of Ethiopian population.
3. **UK** – UK and many other European countries (Germany, France, Poland, Italy, Netherlands & Lithuania etc.,) expelled dozens of Russian diplomats over the Sergei Skripal incident. Sergei Skripal was a Russian secret service agent; he was dismissed and jailed by Russia for passing on secrets of Russian agents to UK’s secret service (M16); In 2010; he was released as part of a ‘spy swap’ deal between Russia & USA. Sergei Skripal and his family left Russia and settled down in England.

In the first week of March, Sergei and his daughter Yulia were found lying unconscious outside a mall in Salisbury. Detailed Medical/Clinical exam/tests revealed that they were poisoned by a nerve agent spray. According to UK Govt, Russian agents carried out the attack which it denies. Western nations say that this is the first nerve agent attack in Europe after the IInd World War. Nerve agents (Sarin, VX) are organic chemical compounds that disrupt the mechanism by which nerves send messages to organs including the brain. The disruption is caused by blocking of acetylcholinesterase, an enzyme that catalyses the breakdown of neuro transmitters. Nerve agents were discovered by Schraber in Germany; they are either injected or sprayed into/on the victim and usually with fatal results (Sergei Skripal & Yulia survived the attack).

Russia also retaliated by expulsion of American & Western diplomats. Tensions between Russia & West/US have been building up over many months due to a number of reasons (not just the Skripal affair), (a) Russia's support to extreme right wing parties in Europe (b) Russian interference in American and European elections (c) Russia's hacking of Western Govt websites (d) Russian support to North Korea's nuclearisation programme etc., (the nerve agent attack on Sergei Skripal was similar to the polonium highly carcinogenic & radioactive) poisoning of another ex-Russian agent, Alexander Litvinenko (he died) in 2006 in London by Russians). US Congress passed the Countering America's Adversaries Through Sanctions Act (CAATSA) which proposes to target firms/entities/countries dealing with Russian defence industry. India is concerned as we have many defence deals with Russia.

4. **Transpacific Partnership** – 11 countries (Canada, Mexico, Peru, Chile, Malaysia, Singapore, Vietnam, Brunei, Japan, Australia and New Zealand) signed the TPP in Santiago, Chile. The agreement was called the Comprehensive & Progressive Agreement for TPP.
5. 44 of the 55 member African Union signed the African Continental Free Trade Area (ACFTA) pact. It seeks to create a single market in goods & services, free movement of persons & investment and eventually a customs union. It aims to abolish import duties on 90% of goods. ACFTA is expected to come into force by 2018 year end.

Indian Economy

1. Microsoft India, inaugurated the first 'Garage' in India at Hyderabad to provide its employees a platform to work on products and solutions based on new-age technologies like IoT, robotics and quantum computing. The Garage, facility at the Microsoft India Development Centre, is the second such unit globally for Microsoft after the one at its headquarters in Redmond, US.
2. The Gratuity Act has been amended providing for tax exemption for payment of gratuity upto Rs. 20 Lakhs even in private sector (exemption in Govt was already made). Gratuity is payable on retirement/resignation at the rate of 15 days of salary for every completed year of service.
3. The Reserve Bank of India (RBI) barred banks from issuing letters of undertaking (LoU), the instruments used by Nirav Modi and Mehul Choksi to defraud Punjab National Bank (PNB).

Letters of Undertaking, or LoU, have come under scrutiny after Nirav Modi fraudulently obtained such credit guarantees from Punjab National Bank to avail overseas loans. What is it? LoU is a guarantee issued by Indian Banks against which a foreign currency loan is availed. Who are they issued to? LoU is used by a bank's customer to avail short-term credit in a foreign country and used by businesses to import goods. How does it work?

The borrower approaches a bank's forex department in India and the bank seeks collateral, after which the LoU is issued to obtain foreign currency loans from an overseas bank. Consequent on the ban on issuance of LoU/LoCs by RBI for trade credit, companies have the option of using bank guarantees to raise buyer's credit, based on a sanctioned limit.

The move is likely to lead to a freeze in trade financing activities in India, increasing costs for importers who have relied on these instruments to get cheaper overseas credit to pay suppliers. It will also put companies that have received credit based on LoUs in a bother, as they have to now repay their borrowings since there will no rollover of existing LoUs.

4. The Govt of India came out with terms and conditions of Air India Sale/Privatization; The terms are as follows:
 - (i) The Government will sell 100% of its stake in Air India Express, 76% in Air India (remaining will be with Govt) Limited and 50% in Air India SATS Airport Services.
 - (ii) Bidder should have a minimum net worth of Rs. 5,000 Crore and positive profit after tax in at least three of the immediately preceding five financial years.
 - (iii) Carriers with zero or negative net worth can also bid by forming a consortium with other partners.
 - (iv) Buyer will have to take over \$5.1 Billion of Air India's total debt of \$7.8 Billion.
 - (v) The buyer will have to list the company subsequently.
5. The Government decided to implement direct benefit transfer (DBT) for fertilizer subsidy payments across India, seeking to prevent diversion of fertilizers for commercial use and generate data on the usage of the nutrients to help farmers.

Here is how the scheme works: Farmers pay subsidized price. Point-of-sale machines capture details of the purchase, buyer, land where it will be used and soil health. Subsidy amount is settled with manufacturer/importer in a few days. Recorded transaction details prevent diversion of the commodity.

6. The Government asked non-banking financial companies (NBFCs) to register with financial intelligence unit (FIU-IND) (in the Ministry of Finance) and report details of clients as per the requirements under the Prevention of Money Laundering Act.
7. India's largest power utility NTPC Ltd., joined hands with Indian Institute of Management-Ahmadabad (IIM-A) to establish a management school in Noida near Delhi that would offer specialized courses on energy management and work as a policy think tank.

S & T

1. The Centre had sanctioned Rs. 1,000 Crore for the Phase II of the Impacting Research Innovation and Technology (IMPRINT) India programme. Under the IMPRINT-II, a fund was being created by the Department of Science and Technology and the HRD Ministry in which participation would come from the industry and interested Ministries. These projects cover crucial domains like security and defence, information technology, energy, sustainable habitat, advance materials, health care, nano technology, climate change etc.,” said a release.
2. India has joined Europe’s mega global arrangement of sharing data from earth observation satellites, called Copernicus. Data from a band of Indian remote sensing satellites will be available to the European Copernicus programme, while designated Indian institutional users will in return get to access free data from Europe’s six Sentinel satellites and those of other space agencies that are part of the programme, at their cost. The space-based information will be used for forecasting disasters, providing emergency response and rescue of people during disasters; to glean land, ocean data; and for issues of security, agriculture, climate change and atmosphere. The multi-billion-euro Copernicus is Europe’s System for monitoring the earth using satellite data. It is coordinated and managed by the European Commission.
3. Scientists have discovered a new metabolic process in the body that can switch off inflammation. They found that ‘itac-onate’ – a molecule derived from glucose – acts as a powerful off-switch for macrophages, which are the cells in the immune system that lie at the heart of many inflammatory diseases.
4. Expressing concern over the increase in the import of ornamental fishes to the country, which is posing a threat to India’s native fish populations, the National Biodiversity Authority (NBA) has urged the Government to come up with quarantine facilities at major seaports and airports. The huge market for Invasive Alien Species (IAS) is turning out to be major threat to India’s aquatic biodiversity.

The following is the location of major invasive fish species in India:

- (i) Giant Gourami (*Osphronemus goramy*) – Kerala, Hyderabad and Chennai (Giant Gouramis are fast growers and survive in polluted water. Gouramis are known to carry pathogens and viruses which can be transmitted to the native fish breeds).
- (ii) Tiny Guppy Fish – Chalakudy River, Kerala
- (iii) American Catfish (*Loricariidae*) – Adyar River, Chennai (American Catfish is known to disrupt the aquatic food chain by overgrazing. They are also called “suckers” due to their gluttonous algae-eating habits).
- (iv) Three-spot Gourami – Chennai and Vembanad Lake (Kerala)

- (v) Gold Fish (*C. auratus*) – Mumbai and Pune (Gold Fish depletes a aquatic vegetation and reduces spawning sites for native fish. It also feeds on eggs and larvae of native fish and can transmit pathogens and parasites to them).
5. A cloned Assamese buffalo male calf was born for the first time at the Central Institute for Research on Buffaloes (CRIB) at Hisar, Harayana. Assamese buffaloes were found only in the North Eastern part of the country and they were used mainly for agricultural work. This was the second cloned male produced by ICAR-CIRB after Hisar-Gaurav, born December 11, 2015. The calf was named Sach-Gaurav.
 6. Scientists have identified a new human ‘organ’ consisting of a network of fluid-filled compartments that act like shock absorbers and protects tissues of vital organs from tearing. Researchers from the NewYork University showed that layers of the body long thought to be dense, connective tissues – below the skin’s surface, lining the digestive tract, lungs and urinary systems and surrounding arteries, veins and the fascia between muscles – are instead interconnected fluid-filled compartments. This series of spaces, supported by a meshwork of strong (collagen) and flexible (elastin) connective tissue proteins, may act like shock absorbers that keep tissues from tearing as organs, muscles and vessels squeeze, pump and pulse as part of a daily function.
 7. NASA launched Transiting Exo-planet Survey Satellite (TESS), which will hunt for planets that have the potential to harbor alien life.
 8. Astronomers (including Ms. Nivedita Mehta from India) at the Arizona State University, USA detected at signal/light from the universes first stars born 180 million years after Big Bang. This discovery is being hailed as significant and is termed ‘Cosmic dawn’ when the first stars lit up the universe. Soon after the Big Bang around 13.8 billion years ago, the Universe entered into the ‘Cosmic Dark Ages’ as it cooled and expanded, since the atoms that formed were opaque to light. For more than 150 million years after the Big Bang, there was no light. By understanding the Cosmic Dawn, scientists will learn about the formation and properties of the first stars and infer more information about the dark ages too.
 9. CSIR sponsored Institute of Rural Technology, West Bengal has developed a device named Surya Jyoti, a micro solar device which runs on the principle of capturing sunlight filtered through a PVC pipe with a highly reflective lining (bright light emerges at the other end through a glass shade. The device was developed under the CSIR’s Technology Advancement for Rural Areas Programme.
 10. A California court in US ruled that coffee sellers/cases should warn about likely health effects of acrylamide a chemical formed when coffee beans are roasted. The chemical is supposed to be carcinogenic.

11. Scientists introduced a revised classification for diabetes that could lead to better treatments. There are five distinct types of diabetes that can occur in adulthood, rather than the two currently recognized.

Now, the disease is divided into two sub-types - type-1 – generally diagnosed in childhood and accounting for about 10% of cases – the body doesn't make insulin, a hormone that helps regulate blood sugar levels. For type-2, the body makes some insulin but not enough, which means glucose stays in the blood.

It has long been known that type-2 diabetes is highly variable, but classification has remained unchanged for decades. By isolating measurement of insulin resistance, insulin secretion, blood sugar levels, age, and the onset of illness, scientists distinguished five distinct clusters of the disease – three serious and two milder forms.

Among the severe types, a group of patients with insulin resistance – in which cells are unable to use insulin effectively – was at far higher risk of kidney disease. Another group facing serious complications was composed of relatively young, insulin-deficient patients. The third “severe” group were people with auto-immune diabetes corresponding to the original “type-1” diagnosis. The two other groups have milder types of this disease including one, which covers about 40% of the patients, with a form of diabetes related to advanced age. Researchers at Lund University, Sweden have proposed the new classification and published in Lancet (a well-known science journal). It is yet to gain acceptance.

12. The Institute of Bio Resources and Sustainable Development, Imphal has developed a floating lab to save/conserves the largest freshwater lake in the North-east, the Loktak Lake in Manipur. Loktak is a unique ecosystem because of hundreds of floating islands of biomass – locally called phumdi – that dots the lake. With eutrophication, the biomass is growing rapidly beyond the carrying capacity of the lake and shrinking the water body. It happens because untreated sewage from Imphal and surrounding areas is discharged directly. The huge inflow of nitrogen and phosphorus triggers a dense growth of plants (eutrophication) as the water becomes rich with nutrients favourable for plant growth. Excess, nitrogen in the water adversely affects the indigenous fish species on which the livelihood of locals depends, whereas acidification harms numerous shellfish, mollusk and prawns.
13. IIT Kanpur, & IIT, Bombay have taken up cold fusion/low energy nuclear reaction projects, though it still is not scientifically proven. Under cold fusion
 - (i) Interaction of hydrogen or deuterium gas with metals such as palladium, zirconium and nickel is claimed to set off a nuclear reaction at lower temperature, releasing energy.
 - (ii) Cold fusion seeks to produce nuclear energy without harmful radiation, complex equipment and the application of very high temperatures and pressures.

Awards

OSCAR Awards 2018

Best Picture – The Shape of Water (an adult fairy tale, set during the Cold War, about the love between a mute woman and a half man-half fish creature, who is being held in a secret scientific laboratory to be studied. The Russians are interested in kidnapping the creature but they are prevented).

Actor – Gary Oldman, Darkest Hour (playing the role of Winston Churchill, British PM during IInd World War)

Actress – Frances Mc Dormand, Three Billboards Outside Ebbing, Missouri

Best Director-Guillermo de Toro (Mexico) for Shape of Water

Screenplay – Get Out

Adapted Screen Play – Call Me by Your Name

Visual Effects – Blade Runner 2049

Music – The Shape of Water

Production Design – The Shape of Water

Cinematography – Blade Runner 2049

Costume Design – Phantom Thread

GK Reddy Award (Journalism) – Karan Thapar

Pritzker Prize (for architecture) – Balkrishna Doshi - He is the first Indian to win this prize. A pioneer of low-cost housing design. Some of his well-known buildings/projects are - IIM, Bangalore, Aranya Low Cost Housing Project, Indore and Amdavad ni Gufa, an underground art museum featuring MF Hussein's paintings in Ahmadabad.

Abel Prize (Mathematics) - Robert Langlands, American mathematician; the prize is given by Norway Govt (the prize is named after Niels Henrik Abel, a famous 19th century mathematician).

Laureus Sports Awards

Sportsman of the year –
Comeback of the year } Roger Federer

Sportswoman of the year – Serena Williams

Team of the year – Mercedes AMG Petronas

Newcyomer of the year – Sergei Garcias
(Spain) (Golf)

Best sporting moment of the year – Brazil, football team Chaperones/their team members died in a plane crash but a new team came back six months later.

2017 Kochon Prize for TB Research - Indian Council of Medical Research (The \$56,000 prize is awarded annually by Stop TB Partnership to individuals and/or organizations that have made a significant contribution.

Sports

Cricket Australia/Australian Cricket Board suspended Captain Steve Smith and David Warren for one year and Colin Bancroft for 9 months for ball tampering on the 3rd day (24th March) of the 3rd test match at Newlands, Capetown against South Africa (The International Cricket Council also slapped ban/fee cut) cameras caught Bancroft applying/rubbing a jellied tape to the ball. Bancroft, Smith and Warner were party to the offence and they admitted. Steve Smith and David Warner withdrew from IPL season 11. The incident enraged many followers of the game including the Prime Ministers of Australia.

Miscellaneous

The UN Sustainable Development Solutions Network released the annual Happiness Report/index. According to the Index, Finland, Norway, Denmark, Iceland & Switzerland are at the top in terms of Happiness (out of 156 countries). India is ranked 133rd. The Index is based on parameters like GDP per capita, life expectancy, social support, public trust in Govt, and generosity etc but it is criticized as being subjective.

Books - A Century is Not Enough-My Roller Coaster Ride to success Saurav Ganguly.

Supplements

One Planet Summit

French President Emmanuel Macron convened the One Planet Summit in December 2017 to take stock of commitments/progress achieved on Paris climate deal 2015. The summit saw the launch of many new initiatives and scaling up of some commitments as follows:

1. The World Bank announced the following:

- (i) It will extend the City Resilience Programme (funded by WB's Global Facility for Disaster Reduction & Recovery, & Govt of Switzerland) to 150 cities over the next three years (focus on resilient infrastructure).
- (ii) Insu Resilience Global Partnership (WB, Germany, UK, Ethiopia, Fiji, G-20) for climate risk finance and insurance solutions in developing countries.
- (iii) Africa Hydromet Programme – (WB, World Meteorological Organisation, African Development Bank) – increased financial support for wealth, water & climate (hydromet) services for planning & development.
- (iv) Caribbean climate summit coalition was launched at the One planet Summit by Caribbean leaders as a voluntary coalition of governments, business, civil society and regional and public institutions, including the Caribbean Development Bank, inter-American Development Bank, the World Bank and the United Nations.
- (v) Global partnership for sustainable cities for climate action planning in 28 cities in 11 countries (already working) funded by World Bank under Global Environment Facility will be extended to 500 more cities under the second phase.
- (vi) A new diplomatic initiative supported by WB called the urban 20 was launched by the Mayor of Paris to bring together 20 major cities in the G-20 countries to share their experience in sustainable development & climate action.
- (vii) The WB said it would stop financing oil & gas exploration.

Other Initiatives

- (i) Major investors (HSBC, Pension Funds) launched the climate action 100 + initiative that will target oil giants and transport (civil aviation, automobiles) to persuade them to reduce emissions.
- (ii) The French Development Agency (AFD) signed agreements with some African states including Niger and Tunisia to help them in their fight against climate change, including countering the effects of erosion.
- (iii) The Bill & Melinda Gates Foundation and the European Commission promised to earmark more than \$600 million for agricultural research to combat the effects of climate change.

Supplement

Sri Narendra Modi formally launched POSHAN scheme (Prime Minister's Overarching scheme for holistic nourishment), the National; nutrition Mission at Jhunjhun, Rajasthan. The World Bank aided scheme aims to bring down stunting in the 0-6 age group children to 25% from the present 38.4% by 2022 apart from strengthening ICDS infrastructure and promote citizen involvement.