

28 FEBRUARY 2019

Geneva Convention

- The 1949 Geneva Conventions are a **set of international treaties that ensure that warring parties conduct themselves in a humane way with non-combatants** such as civilians and medical personnel, as well as with combatants no longer actively engaged in fighting, such as prisoners of war, and wounded or sick soldiers. All countries are signatories to the Geneva Conventions. **There are four conventions, with three protocols added on since 1949.**

Atal Innovation Mission (AIM)

- NITI Aayog's Atal Innovation Mission (AIM) and Adobe have signed a Statement of Intent (SOI) to collectively drive the charter of developing creative skills and spreading digital literacy across all Atal Tinkering Labs in India.
- As per MoU, Adobe shall be adopting 100 schools under Atal Tinkering Labs (ATL) initiative.
- Adobe shall be implementing its Digital Disha Program in ATLs, under which free licenses of Adobe Spark premium shall be offered to ATLs.
- **Launched in 2018, the Adobe Digital Disha Programme is aimed at driving synergies in creative thinking and technology-based learning.**
- With a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India.
- **Objective:** The objective of this scheme is to foster curiosity, creativity and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.
- **Financial Support:** AIM will provide grant-in-aid that includes a one-time establishment cost of Rs. 10 lakh and operational expenses of Rs. 10 lakh for a maximum period of 5 years to each ATL.
- **Eligibility:** Schools (minimum Grade VI – X) managed by Government, local body or private trusts/society can set up ATL.
- Atal Tinkering Labs have evolved as epicenters for imparting these 'skills of the future' through practical applications based on self-learning.
- Bridging a crucial social divide, Atal Tinkering Labs provide equal opportunity to all children across the spectrum by working at the grassroots level, introducing children to the world of innovation and tinkering.
- As the world grapples with evolving technologies, a new set of skills have gained popular acceptance and have come to be in high demand. For India to contribute significantly during this age of rapid technological advancement, there is an urgent need to empower our youth with these 'skills of the future'.
- Equipped with modern technologies to help navigate and impart crucial skills in the age of the Fourth Industrial Revolution, the ATLs are at the vanguard of promoting scientific temper and an entrepreneurial spirit in children today.

- The Atal Innovation Mission (AIM) is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
- AIM is mandated to create an umbrella structure to oversee innovation ecosystem of the country and revolutionizing the innovation eco-system – touching upon the entire innovation life cycle through various programs.
- **The Atal Innovation Mission shall have two core functions:**
 1. Entrepreneurship promotion through **Self-Employment and Talent Utilization**, wherein innovators would be supported and mentored to become successful entrepreneurs.
 2. **Innovation promotion:** to provide a platform where innovative ideas are generated.

Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative

- The government recently handed over the 100th Letter of Intent (LOI) to the Compressed Bio-Gas (CBG) Entrepreneur (producer) under the SATAT scheme.
- The initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation (SATAT) as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- Compressed Bio-Gas plants are proposed to be set up mainly through independent entrepreneurs. CBG produced at these plants will be transported through cascades of cylinders to the fuel station networks of OMCs for marketing as a green transport fuel alternative.
- The entrepreneurs would be able to separately market the other by-products from these plants, including bio-manure, carbon-dioxide, etc., to enhance returns on investment.
- It is planned to roll out 5,000 Compressed Bio-Gas plants across India in a phased manner.
- This initiative is expected to generate direct employment for 75,000 people and produce 50 million tonnes of bio-manure for crops.
- **There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:**
 1. Responsible waste management, reduction in carbon emissions and pollution.
 2. Additional revenue source for farmers.
 3. Boost to entrepreneurship, rural economy and employment.
 4. Support to national commitments in achieving climate change goals.
 5. Reduction in import of natural gas and crude oil.
 6. Buffer against crude oil/gas price fluctuations.
- **Bio-gas** is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. After purification, it is compressed and called CBG, which has pure methane content of over 95%.
- **Compressed Bio-Gas** is exactly similar to the commercially available natural gas in its composition and energy potential. With calorific value (~52,000 KJ/kg) and other properties similar to CNG, Compressed Bio-Gas can be used as an alternative, renewable automotive fuel. Given the abundance of biomass in the country, Compressed Bio-Gas has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.
- Compressed Bio-Gas can be produced from various bio-mass/waste sources, including agricultural residue, municipal solid waste, sugarcane press mud, distillery spent wash, cattle dung and sewage treatment plant waste. The other waste streams, i.e, rotten potatoes from cold storages, rotten vegetables, dairy plants, chicken/poultry litter, food waste, horticulture waste, forestry residues and treated organic waste from industrial effluent treatment plants (ETPs) can be used to generate biogas.

- The potential for Compressed Bio-Gas production from various sources in India is estimated at about 62 million tonnes per annum. Going forward, Compressed Bio-Gas networks can be integrated with city gas distribution (CGD) networks to boost supplies to domestic and retail users in existing and upcoming markets. Besides retailing from OMC fuel stations, Compressed Bio-Gas can at a later date be injected into CGD pipelines too for efficient distribution and optimised access of a cleaner and more affordable fuel.

Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)

- The Ministry of Human Resources Development has launched the **Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)** for providing industry apprenticeship opportunities to the general graduates exiting in April 2019 through the National Apprenticeship Promotional Scheme (NAPS).
- SHREYAS is a programme basket comprising the initiatives of three Central Ministries, namely the Ministry of Human Resource Development, Ministry of Skill Development & Entrepreneurship and the Ministry of Labour & Employment viz the National Apprenticeship Promotion Scheme (NAPS), the National Career Service (NCS) and introduction of BA/BSc/BCom (Professional) courses in the higher educational institutions.
- SHREYAS is a programme conceived for students in degree courses, primarily non-technical, with a view to introduce employable skills into their learning, promote apprenticeship as integral to education and also amalgamate employment facilitating efforts of the Government into the education system so that clear pathways towards employment opportunities are available to students during and after their graduation.
- **Aim:** To enhance the employability of Indian youth by providing 'on the job work exposure' and earning of stipend.
- **Target:** In all the tracks together, it is proposed to cover 50 lakh students by 2022.
- **Following are the objectives of SHREYAS:**
 1. To improve employability of students by introducing employment relevance into the learning process of the higher education system.
 2. To forge a close functional link between education and industry/service sectors on a sustainable basis.
 3. To provide skills which are in demand, to the students in a dynamic manner.
 4. To establish an 'earn while you learn' system into higher education.
 5. To help business/industry in securing good quality manpower.
 6. To link student community with employment facilitating efforts of the Government.
- **Operation of the Scheme:**
- The primary scheme will be operated in conjunction with National Apprenticeship Promotion Scheme (NAPS) which provides for placing of apprentices upto 10% of the total work force in every business/industry.
- The scheme will be implemented by the Sector Skill Councils (SSCs), initially the Banking Finance Insurance Services (BFSI), Retail, Health care, Telecom, Logistics, Media, Management services, ITeS and Apparel. More sectors would be added over time with emerging apprenticeship demand and curriculum adjustments.
- **Significance of the scheme:**
- Education with skills is the need of the hour and the SHREYAS will be a major effort in this direction to make degree students more skilled, capable, employable and aligned to the needs of our economy so that they contribute to country's progress and also obtain gainful employment.

“Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme”

- To cater to the needs and aspirations of the youth, the **National Cooperative Development Corporation (NCDC)** has launched a youth-friendly scheme ‘**Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme**’ for attracting them to cooperative business ventures.
- The scheme would encourage cooperatives to venture into new and innovative areas.
- NCDC has created a dedicated fund with liberal features enabling youth to avail the scheme. The scheme will be linked to Rs 1000 crore ‘**Cooperative Start-up and Innovation Fund (CSIF)**’ created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members.
- The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible.
- National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as a **statutory Corporation under Ministry of Agriculture & Farmers Welfare**. It has many regional centres to provide the financial assistance to Cooperatives/Societies/Federations.

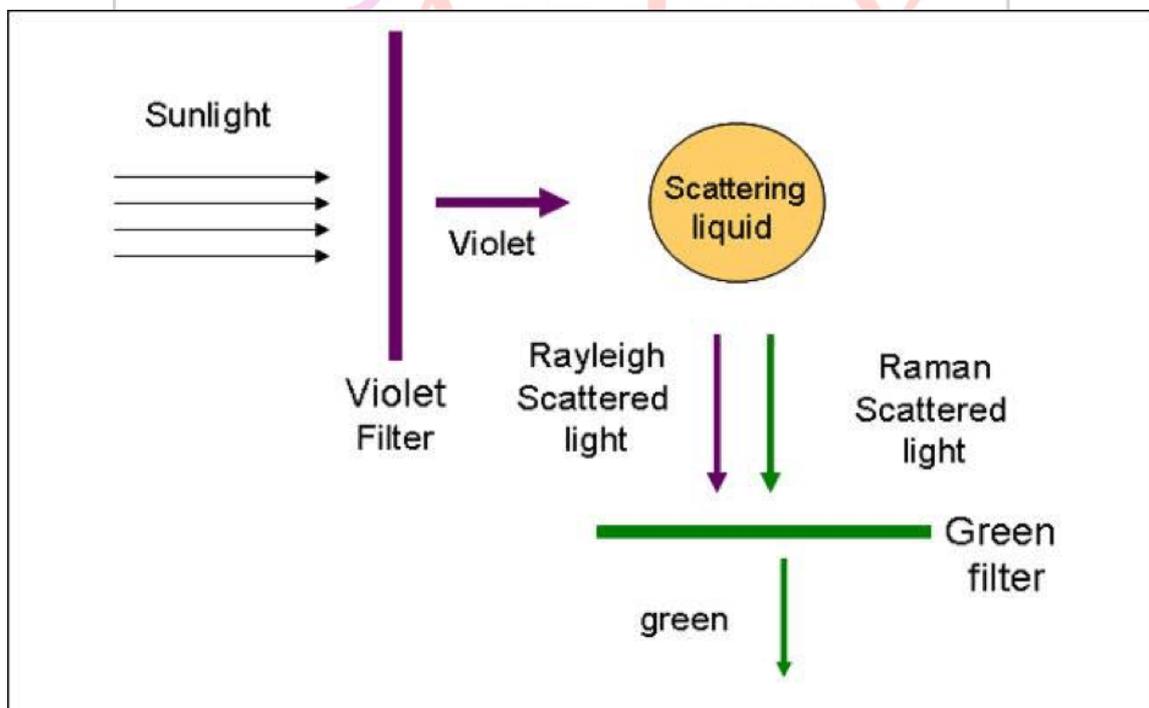
Inclusive Internet Index 2019

- Inclusive Internet Index 2019 has been released.
- The **Inclusive Internet Index, commissioned by Facebook and conducted by The Economist Intelligence Unit**, seeks to measure the extent to which the Internet is not only accessible and affordable, but also relevant to all, allowing usage that enables positive social and economic outcomes at individual and group level.
- **The aim of the Inclusive Internet Index is to** provide researchers and policymakers with the information they need to enable the beneficial use of the Internet, irrespective of age, gender, location or background.
- **The index assesses the performance of 100 countries in four categories of inclusion:** Accessibility, Affordability, Relevance and Readiness. Each category incorporates key indicators of internet inclusion, including quantitative measures such as network coverage and pricing, and qualitative measures such as the presence of e-inclusion policies and the availability of local-language content.
- **Key findings:**
 1. The digital divide appears to be widening at the bottom of the income pyramid, risking a reversal of past progress.
 2. Gender gaps in Internet access continue to narrow globally, led by low and lower middle-income countries.
 3. Concerns about online privacy remain high, and trust in information from governments on the Internet has retreated in the West.
 4. Men have more Internet access than women globally but low and lower middle income countries narrowed the gender gap in 2018.
 5. Inclusion for women and those with disabilities have improved, with low income and lower-middle-income countries driving the progress.
- **Performance of various countries:**
- Sweden has topped the rankings followed by Singapore and the US.
- India has been ranked 47th.

- The UK, Namibia, Ireland, Austria, Chile and South Africa are the top performers of the year in terms of gender equality. All these countries had female digital skills training plans.

National Science Day 2018

- **National Science Day** is celebrated on **28th of February every year in order to commemorate the invention of the Raman Effect** in India by the Indian physicist, Sir Chandrasekhara Venkata Raman on the same day in the year 1928.
- For his great success in the field of science in India, Chandrasekhara Venkata Raman was awarded and honored with the **Nobel Prize in the Physics in the year 1930**.
- **Theme:** "Science for the People and the People for Science."
- The Raman Effect is a change in the wavelength of light that occurs when a light beam is deflected by molecules. When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam.
- Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman effect.
- **Raman's experiment:** The violet light of the solar spectrum is isolated with a violet filter and passed through the liquid sample. Most of the light emerging from the liquid sample is the same color as the incident violet beam: the so-called Rayleigh scattered light (the scattering of light by particles in a medium, without change in wavelength. It accounts, for example, for the blue colour of the sky, since blue light is scattered slightly more efficiently than red).
- However, Raman, along with K S Krishnan was able to show that **some of the scattered light was a different color, which they could isolate by using a green filter placed between the observer and the sample**.



Parents Responsibility and Norms for Accountability and Monitoring (PRANAM) Bill

- Assam has launched the **PRANAM Commission**, a panel set up to look after the issues concerning a Bill brought in for protection of parents of state government employees.
- The **Parents Responsibility and Norms for Accountability and Monitoring (PRANAM) Bill**, stated to be the first-of its-kind Bill in the country, is an effort to protect elderly parents of government employees in their times of need.
- **Objective of the bill:** To ensure that no state government employee ignores their elderly parents and unmarried differently-abled siblings.
- The PRANAM Bill makes it **mandatory for the state government employees to look after their parents and unmarried differently-abled siblings who do not have their own sources of income.**
- Under the bill's provisions, **if the PRANAM Commission gets a complaint that parents of a state government employee are being ignored, then 10 or 15 per cent of the employee's salary will be deducted by the government and paid to the parents or differently-abled siblings.**
- The **employees of private companies and the central government working in the state would also be covered by the bill at a later stage.**

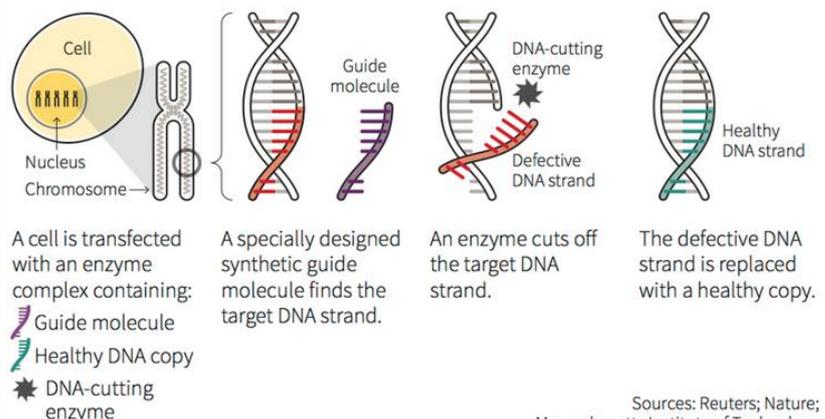
China drafts new rules to supervise biotechnology research

- China has drafted new rules to supervise biotechnology research.
- It proposes fines and bans against rogue scientists.
- It proposes to classify technology used for extracting genetic materials, gene editing, gene transfer and stem cell research as "high risk".
- Scientists can be fined 10 to 20 times the amount of "illegal income" earned from unauthorised research and be banned from their field of work for six months to one year.
- If the circumstances are serious, their medical practice licence shall be revoked and the individual shall not engage in clinical research for life.
- Recently a Chinese researcher caused a global outcry by claiming that he gene-edited babies.
- He announced in November that the world's first gene-edited babies — twin girls — were born that same month after he altered their DNA to prevent them from contracting HIV by deleting a certain gene under a technique known as CRISPR.
- The claim shocked scientists worldwide, raising questions about bioethics and putting a spotlight on China's lax oversight of scientific research.

DNA editing

A DNA editing technique, called CRISPR/Cas9, works like a biological version of a word-processing programme's "find and replace" function.

HOW THE TECHNIQUE WORKS



Sources: Reuters; Nature; Massachusetts Institute of Technology

2nd Edition of ISL Dictionary:

- '2nd Edition of ISL Dictionary' for Hearing Impaired Persons has been launched. The Dictionary Includes 6000 Words Under Categories of Academic, Legal, Medical, Technical & Everyday Terms.
- The dictionary has been developed by **Indian Sign Language Research & Training Centre (ISLR&TC)** under Department of Empowerment of Persons with Disabilities (DEPwD), M/o Social Justice & Empowerment.
- Its aim is to give Deaf people the constitutional right to speech and opportunity of freedom of expression and also bringing them into the main stream of the society.

“South Coast Railway (SCoR)”- a new Zone of Indian Railways

- Creation of a new zone with headquarter at Visakhapatnam.
- The new zone named “South Coast Railway (SCoR)”, will comprise of existing Guntakal, Guntur and Vijayawada divisions.
- South Central Railway will comprise of Hyderabad, Secunderabad and Nanded divisions.

Technology Support and Outreach (TECH-SOP):

- TECH – SOP is an initiative of the MSME Ministry to bridge the gap between research and development institutions and MSMEs so that they can use latest technologies and become a part of global value chain.

Defence Acquisition Council (DAC):

- To counter corruption and speed up decision- making in military procurement, the government of India in 2001 decided to set up an integrated DAC. It is headed by the Defence Minister.
- **Objective:** The objective of the DAC is to ensure expeditious procurement of the approved requirements of the Armed Forces, in terms of capabilities sought, and time frame prescribed, by optimally utilizing the allocated budgetary resources.
- **Functions:** The DAC is responsible to give policy guidelines to acquisitions, based on long-term procurement plans. It also clears all acquisitions, which includes both imported and those produced indigenously or under a foreign license.

India's first indigenous semiconductor chips for 4G/LTE and 5G NR modems:

- India's first Indigenous Semiconductor Chips by Bengaluru based semiconductor company “**SIGNALCHIP**” for 4G/LTE and 5G NR MODEMS was recently unveiled.
- **Significance:** With this, India has entered into the elite club of the world and this will have huge implications for India's data security and data sovereignty, besides the positive economic implications. At present only 8 companies and a few countries can design and build semiconductor chips.

Aarohan Social Innovation Awards:

- The **Infosys Foundation** has constituted **Aarohan Social Innovation Awards** to reward individuals, teams or NGOs developing solutions for the social sector.
- **Aim:** To nurture the culture of innovation in the social sector to scale positive change across the country and thereby provide a platform to help the solutions scale.

- **The awards would be given away in six categories** spanning healthcare, destitute care, rural development, women's safety and empowerment, education and sport and sustainability.
- **Scheme for Higher Education Youth in Apprenticeship and Skills**
- It was launched by the Minister of Human Resource and Development.
- It is to provide industry apprenticeship opportunities to graduates in non-technical fields, passing out from the National Apprenticeship Promotion Scheme (NAPS).
- The objective is to enhance the employability of Indian youth by providing 'on-job work exposure' and stipend.
- It is a program basket comprising the initiatives of three Central Ministries,
- Ministry of Human Resource Development- introduction of BA/BSc/BCom (Professional) courses in the higher educational institutions
- Ministry of Skill Development & Entrepreneurship - National Apprenticeship Promotion Scheme (NAPS)
- Ministry of Labor & Employment- National Career Service (NCS)
- The primary scheme will be operated in conjunction with National Apprenticeship Promotion Scheme (NAPS).
- The scheme will be implemented by the Sector Skill Councils (SSCs).
- The SHREYAS portal will enable educational institutions to log in and provide their respective demand and supply of apprenticeship.

Sustainable Alternative towards Affordable Transportation (SATAT)

- It is an initiative aimed at providing a Sustainable Alternative towards Affordable Transportation.
- It is a developmental effort that would benefit vehicle-users as well as farmers and entrepreneurs.
- Compressed Bio-Gas production plants are set up under the initiative by inviting Expression of Interest from potential entrepreneurs.
- It has a four-pronged agenda of
- utilising more than 62 million metric tonnes of waste generated every year in India
- cutting down import dependence
- supplementing job creation in the country
- reducing vehicular emissions and pollution from burning of agricultural / organic waste.
- Bio-gas is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources.
- The wastes are agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.

Tree cover and Forest Cover

- The Ministry of Environment, Forest & Climate Change defines 'forest cover' in India as "all lands, more than one hectare in area with a tree **canopy density of more than 10%**"
- Similarly 'tree cover' is defined as "tree patches outside recorded forest areas **exclusive of forest cover** and **less than the minimum mappable area of 1 hectare**".
- There is a third measure known as Tree outside forest (TOF).

TOP 5 BY TREE COVER

(ALL INDIA: 2.85%)

Goa	8.73%
Delhi	7.62%
Kerala	7.62%
Gujarat	4.09%
Jharkhand	3.67%

Source: India State of Forest Report 2017

TOP 5 BY FOREST COVER

(ALL INDIA: 21.54%)

Lakshadweep	90.33%
Mizoram	86.27%
A&N Islands	81.73%
Arunachal	79.96%
Manipur	77.69%

Source: MoEFCC reply in Lok Sabha

- The 'India State of Forest Report 2017' defines TOF as "trees existing **outside the recorded forest area** in the form of block, linear & scattered size of patches".
- Since tree cover measures only non-forest patches that are less than 1 hectare, it is only a part of TOF.

Prompt Corrective Action (PCA) Framework

- Reserve Bank of India took 3 more commercial banks out of the prompt corrective action (PCA) framework.
- It is a framework under which banks with weak financial metrics are put under watch by the RBI.
- Banks are monitored under the three parameters
 1. capital ratios
 2. asset quality
 3. profitability
- It has three risk threshold levels (1 being the lowest and 3 the highest) based on where a bank stands on these ratios.
- It is intended to help alert the regulator as well as investors and depositors if a bank is heading for trouble.

Arabian Desert

- The Arabian Desert is the largest desert of Asia and covers a major portion of Arabian Peninsula.
- The largest part of the desert lies in Saudi Arabia.
- It also covers neighboring countries such as Yemen, Oman, United Arab Emirates, Kuwait, Qatar, Iraq and Jordan
- **Rub'al-Khali**, which makes up the most part of this desert, is the largest continuous area of sand in the world.
- Numerous desert insects, including mosquitoes, fleas, ants, termites, beetles, locusts, spiders, butterflies and caterpillars dominate the landscape.

Feni

- It is popular local traditional brew (liquor) distilled from the cashew fruit.
- Cashew feni was given the Geographical Indication tag as manufactured goods.
- The name feni is derived from Sanskrit word 'phena' meaning froth or foam.
- It is also distilled from fermented toddy from coconut palm.
- It is prepared in a typical Portuguese way that does not entail the use of electricity in the process.